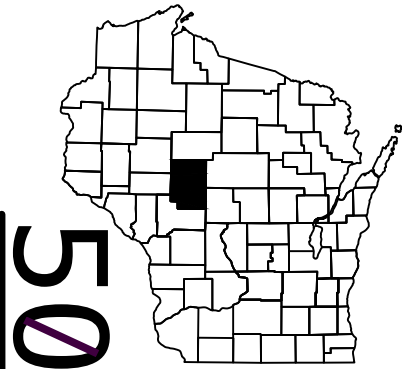


EAU  
PROJECT ID: 7839-03-71  
WITH: N/A  
COUNTY: CLARK

NOVEMBER 2024  
ORDER OF SHEETS

|             |   |                              |
|-------------|---|------------------------------|
| Section No. | 1 | Title                        |
| Section No. | 2 | Typical Sections and Details |
| Section No. | 3 | Estimate of Quantities       |
| Section No. | 3 | Miscellaneous Quantities     |
| Section No. | 4 | Right of Way Plat            |
| Section No. | 5 | Plan and Profile             |
| Section No. | 6 | Standard Detail Drawings     |
| Section No. | 7 | Sign Plates                  |
| Section No. | 8 | Structure Plans              |
| Section No. | 9 | Computer Earthwork Data      |
| Section No. | 9 | Cross Sections               |

TOTAL SHEETS = 102



DESIGN DESIGNATION

|              |        |   |         |
|--------------|--------|---|---------|
| A.A.D.T.     | (2025) | = | 500     |
| A.A.D.T.     | (2045) | = | 610     |
| D.H.V.       |        | = | N/A     |
| D.D.         |        | = | 50/50   |
| T.           |        | = | 11%     |
| DESIGN SPEED |        | = | 50 MPH  |
| ESALS        |        | = | 130,000 |

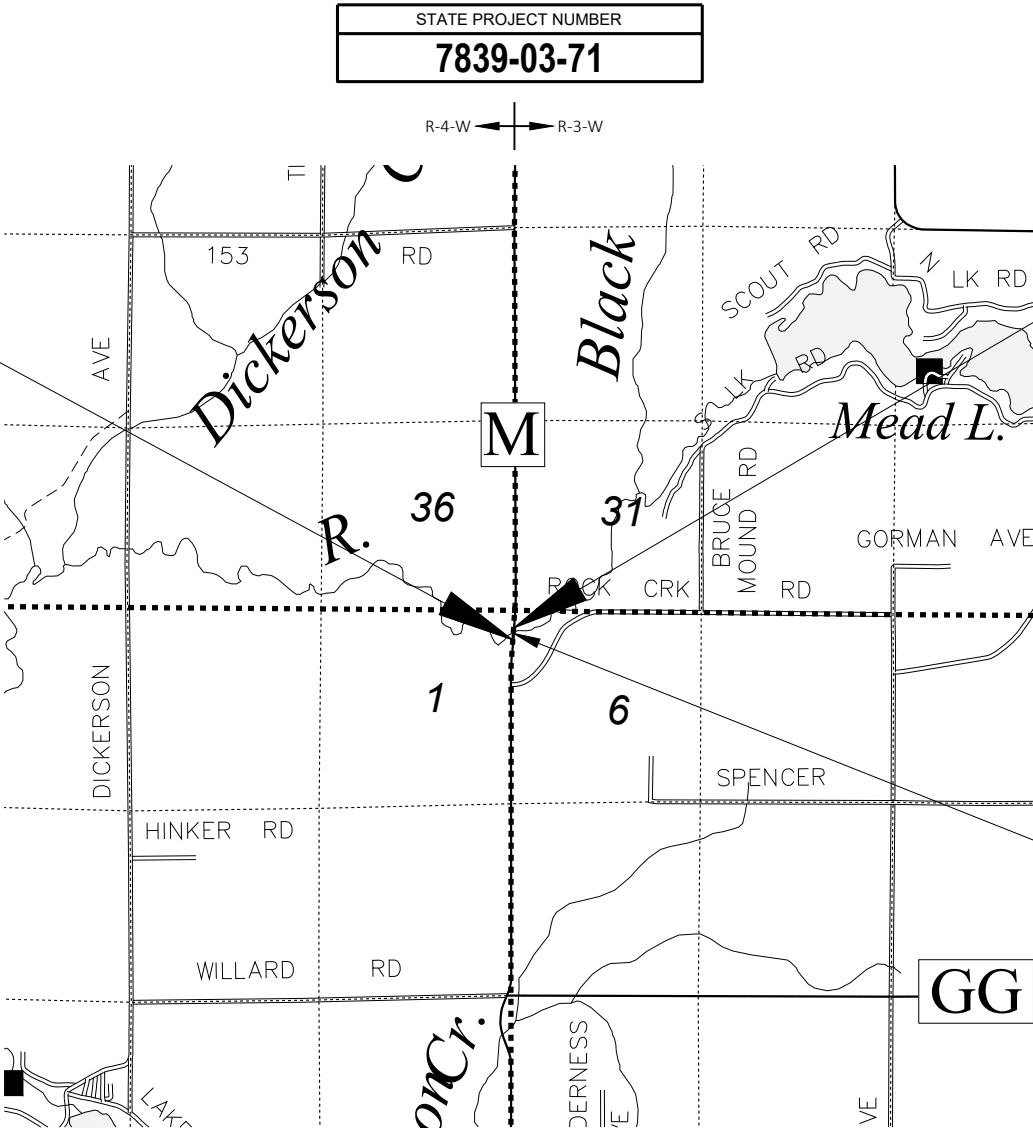
CONVENTIONAL SYMBOLS

|                                |  |
|--------------------------------|--|
| PLAN                           |  |
| CORPORATE LIMITS               |  |
| PROPERTY LINE                  |  |
| LOT LINE                       |  |
| LIMITED HIGHWAY EASEMENT       |  |
| EXISTING RIGHT OF WAY          |  |
| PROPOSED OR NEW R/W LINE       |  |
| SLOPE INTERCEPT                |  |
| REFERENCE LINE                 |  |
| EXISTING CULVERT               |  |
| PROPOSED CULVERT (Box or Pipe) |  |
| COMBUSTIBLE FLUIDS             |  |
| MARSH AREA                     |  |
| WOODED OR SHRUB AREA           |  |

|                                             |  |
|---------------------------------------------|--|
| PROFILE                                     |  |
| GRADE LINE                                  |  |
| ORIGINAL GROUND                             |  |
| MARSH OR ROCK PROFILE (To be noted as such) |  |
| SPECIAL DITCH                               |  |
| GRADE ELEVATION                             |  |
| CULVERT (Profile View)                      |  |
| UTILITIES                                   |  |
| ELECTRIC                                    |  |
| FIBER OPTIC                                 |  |
| GAS                                         |  |
| OVERHEAD                                    |  |
| SANITARY SEWER                              |  |
| STORM SEWER                                 |  |
| TELEPHONE                                   |  |
| WATER                                       |  |
| UTILITY PEDESTAL                            |  |
| POWER POLE                                  |  |
| TELEPHONE POLE                              |  |

|  |       |
|--|-------|
|  |       |
|  | ROCK  |
|  | LABEL |
|  | 95.36 |
|  |       |
|  | E     |
|  | FO    |
|  | G     |
|  | OH    |
|  | SAN   |
|  | SS    |
|  | T     |
|  | W     |
|  |       |
|  |       |
|  |       |

BEGIN PROJECT  
STA 108+50  
Y=425187.067  
X=631979.875



STATE PROJECT NUMBER  
7839-03-71

END PROJECT  
STA 122+15

STRUCTURE B-10-397  
STA 116+72.56 - STA 121+25.44

LAYOUT  
SCALE 0 1 MI  
TOTAL NET LENGTH OF CENTERLINE = 0.259 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), CLARK COUNTY NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON WISCONSIN GEOID 18.

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 7839-03-71    | WISC 2025046    | 1        |
|               |                 |          |
|               |                 |          |

ACCEPTED FOR  
CLARK COUNTY  
Date 07/30/2024  
*Brian Duell*  
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY  
**CORRE**  
ENGINEERING  
MADISON | EAU CLAIRE | WAUKESHA | APPLETON | TOMAH | WAUSAU

July 30, 2024

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor CORRE INC  
Designer CORRE INC  
Project Manager TOU YANG, PE  
Regional Examiner TOU YANG, PE  
Regional Supervisor TOU YANG, PE

APPROVED FOR THE DEPARTMENT  
DATE: 7/30/2024  
*[Signature]*  
(Signature)

E

GENERAL NOTES

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE ENGINEER SHALL ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH THE EXISTING UTILITY FACILITIES.

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

4.5-INCH ASPHALTIC SURFACE, SHALL BE CONSTRUCTED WITH 2.25-INCH UPPER LAYER AND 2.25-INCH LOWER LAYER.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE, SUBBASE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND EROSION MAT URBAN CLASS I TYPE B AS DIRECTED BY THE ENGINEER.

CURVE DATA IS BASED ON THE ARC DEFINITION.

PRIOR TO PLACEMENT OF BEAM GUARD THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OR PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

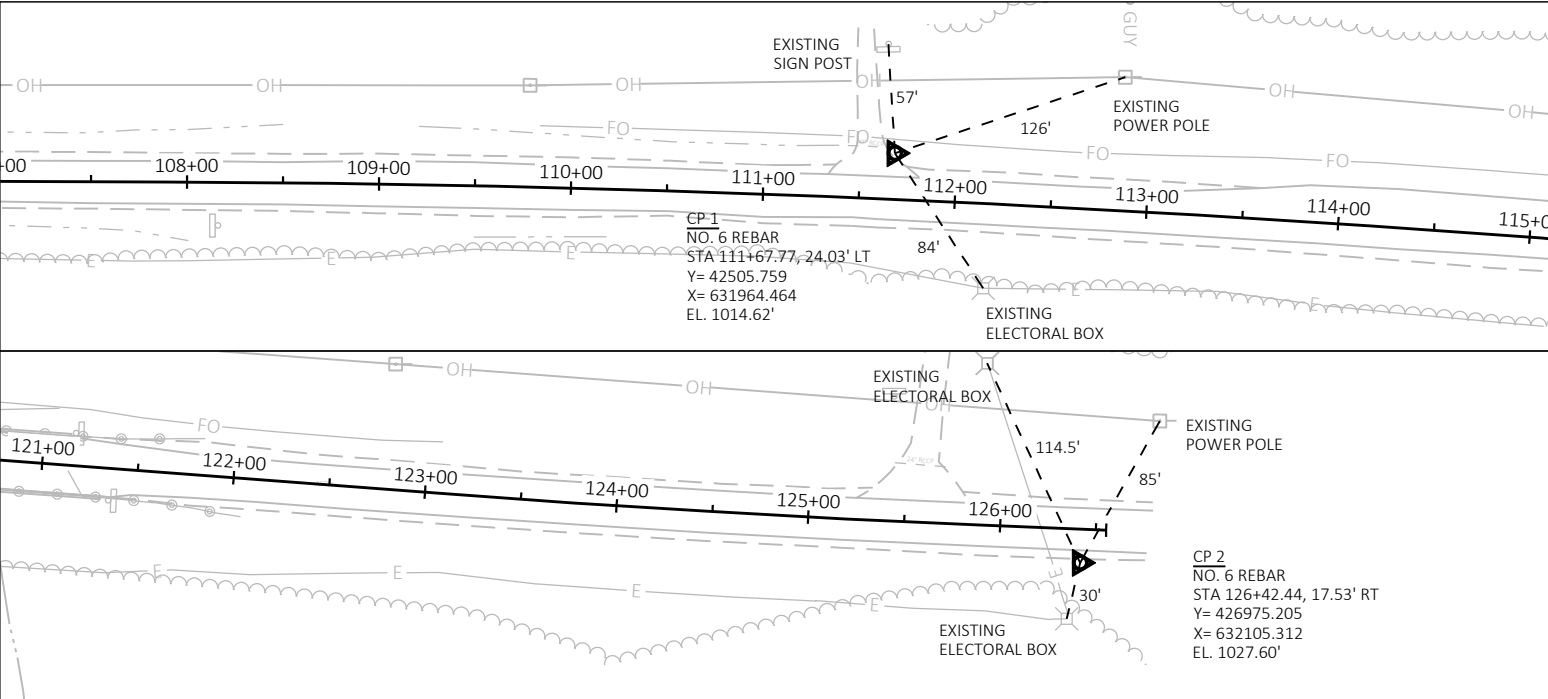
BEARINGS SHOWN ON THE PLAN ARE GROUND BEARINGS TO THE NEAREST SECOND.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

D.O.T.BRIDGE BENCHMARK MONUMENT TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE OR PARKING LANE.

CONTROL POINT TIES



RUNOFF COEFFICIENT TABLE

|                         | HYDROLOGIC SOIL GROUP |            |            |                       |            |            |                       |            |            |                       |            |            |
|-------------------------|-----------------------|------------|------------|-----------------------|------------|------------|-----------------------|------------|------------|-----------------------|------------|------------|
|                         | A                     |            |            | B                     |            |            | C                     |            |            | D                     |            |            |
|                         | SLOPE RANGE (PERCENT) |            |            | SLOPE RANGE (PERCENT) |            |            | SLOPE RANGE (PERCENT) |            |            | SLOPE RANGE (PERCENT) |            |            |
| LAND USE:               | 0-2                   | 2-6        | 6 & OVER   | 0-2                   | 2-6        | 6 & OVER   | 0-2                   | 2-6        | 6 & OVER   | 0-2                   | 2-6        | 6 & OVER   |
| ROW CROPS               | .08<br>.22            | .16<br>.30 | .22<br>.38 | .12<br>.26            | .20<br>.34 | .27<br>.44 | .15<br>.30            | .24<br>.37 | .33<br>.50 | .19<br>.34            | .28<br>.41 | .38<br>.56 |
| MEDIAN STRIP-<br>TURF   | .19<br>.24            | .20<br>.26 | .24<br>.30 | .19<br>.25            | .22<br>.28 | .26<br>.33 | .20<br>.26            | .23<br>.30 | .30<br>.37 | .20<br>.27            | .25<br>.32 | .30<br>.40 |
| SIDE SLOPE-<br>TURF     |                       |            | .25<br>.32 |                       |            | .27<br>.34 |                       |            | .28<br>.36 |                       |            | .30<br>.38 |
| PAVEMENT:               |                       |            |            |                       |            |            |                       |            |            |                       |            |            |
| ASPHALT                 | .70 - .95             |            |            |                       |            |            |                       |            |            |                       |            |            |
| CONCRETE                | .80 - .95             |            |            |                       |            |            |                       |            |            |                       |            |            |
| BRICK                   | .70 - .80             |            |            |                       |            |            |                       |            |            |                       |            |            |
| DRIVES, WALKS           | .75 - .85             |            |            |                       |            |            |                       |            |            |                       |            |            |
| ROOFS                   | .75 - .95             |            |            |                       |            |            |                       |            |            |                       |            |            |
| GRAVEL ROADS, SHOULDERS | .40 - .60             |            |            |                       |            |            |                       |            |            |                       |            |            |

TOTAL PROJECT AREA = 3.78 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.90 ACRES

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES  
DNR WISCONSIN RAPIDS SERVICE CENTER  
473 GRIFFITH DRIVE  
WISCONSIN RAPIDS, WI 54494  
  
ATTN: BRAD BETTHAUSER  
TELEPHONE: (715) 421-7851  
E-MAIL: BRADLEY.BETTHAUSER@WISCONSIN.GOV

COUNTY CONTACT

CLARK COUNTY HIGHWAY COMMISSIONER  
511 W SOUTH STREET  
LOYAL, WI 54446  
  
ATTN: BRIAN DUELL  
TELEPHONE: (715) 743-3680  
E-MAIL: BRIAN.DUELL@CO.CLARK.WI.US

CONSULTANT CONTACT

CORRE, INC.  
6510 GRAND TETON PLAZA  
SUITE 314  
MADISON, WI 53719  
  
ATTN: ERIC PRICE, P.E.  
TELEPHONE: (608) 826-6146  
E-MAIL: EPRICE@CORREINC.COM

UTILITY CONTACTS

AT&T DISTRIBUTION  
304 S DEWEY ST  
EAU CLAIRE, WI 54701  
  
ATTN: RICK PODOLAK  
TELEPHONE: (715) 410-0656  
E-MAIL: RP4514@ATT.COM

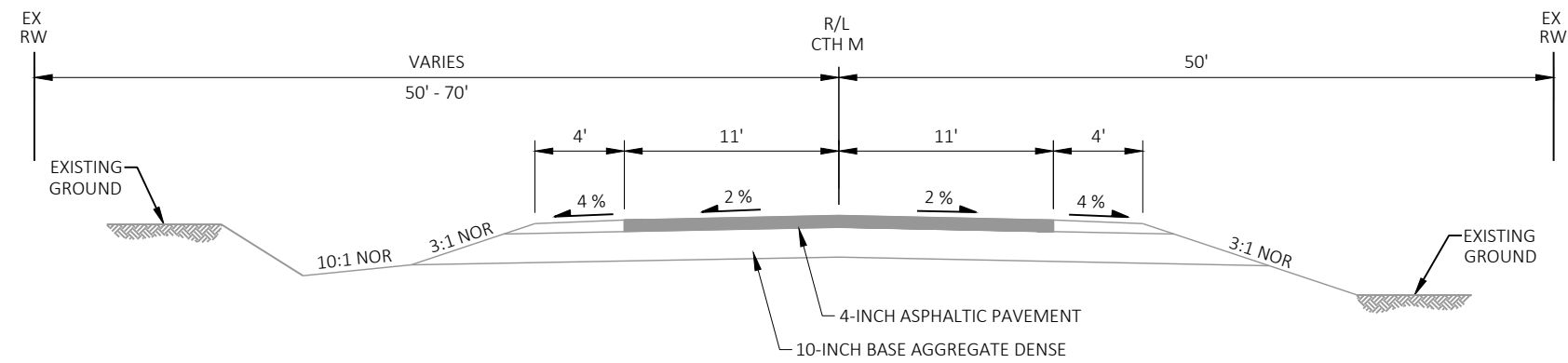
CLARK ELECTRIC COOPERATIVE  
1209 W DAL-BERG RD  
GREENWOOD, WI 54437  
  
ATTN: KENT WEIGEL  
TELEPHONE: (715) 267-7955  
E-MAIL: KWEIGEL@CECOOP.COM

DAIRYLAND POWER COOPERATIVE  
3200 EAST AVE S  
PO BOX 817  
LA CROSSE, WI 54602  
  
ATTN: MIKE LYDON  
TELEPHONE: (608) 787-1381  
E-MAIL: MICHAEL.LYDON@DAIRYLANDPOWER.COM

DIGGERSHOTLINE

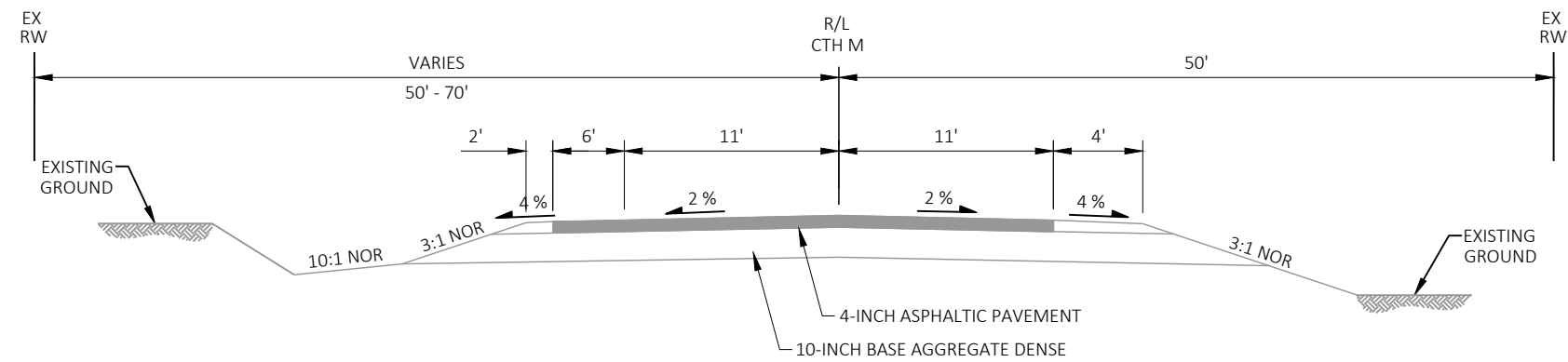
Dial 811 or (800)242-8511

www.DiggersHotline.com



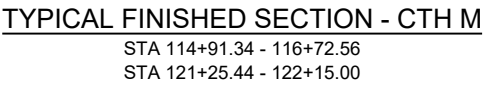
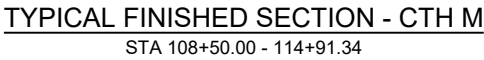
**TYPICAL EXISTING SECTION - CTH M**

STA 108+50.00 - 113+85.00  
STA 119+18.2 - 122+15.00

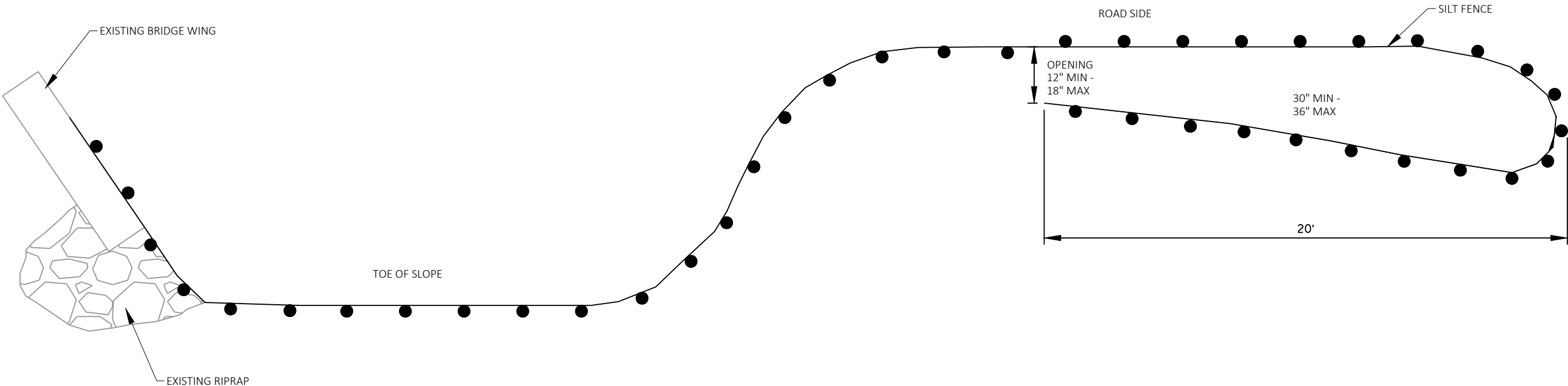


**TYPICAL EXISTING SECTION - CTH M**

STA 113+85.00 - 121+11.8



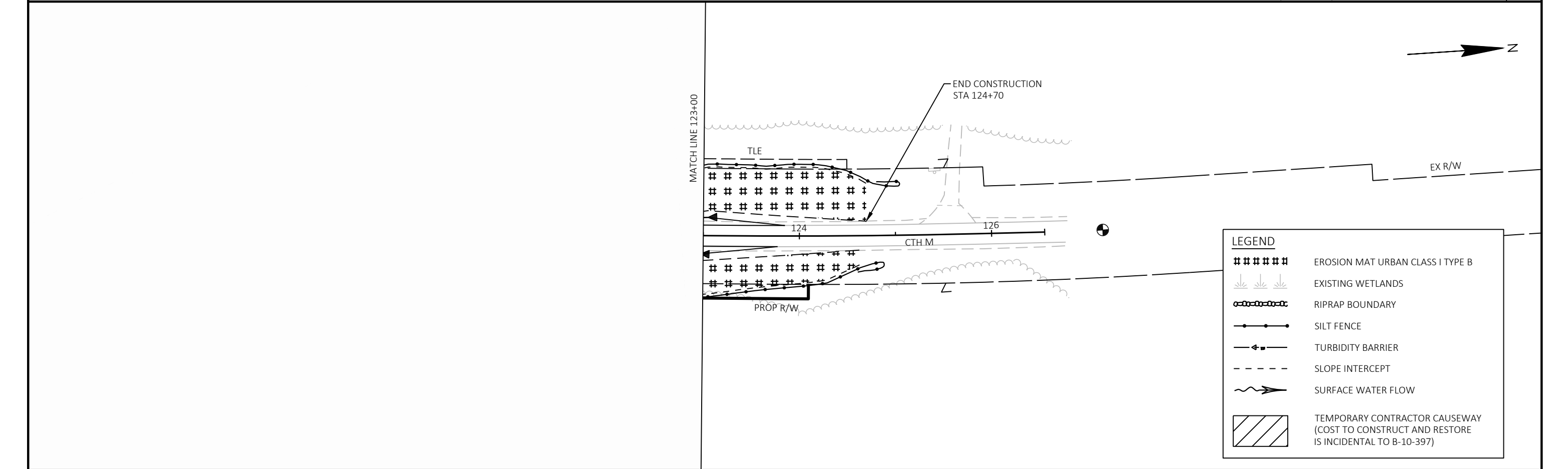
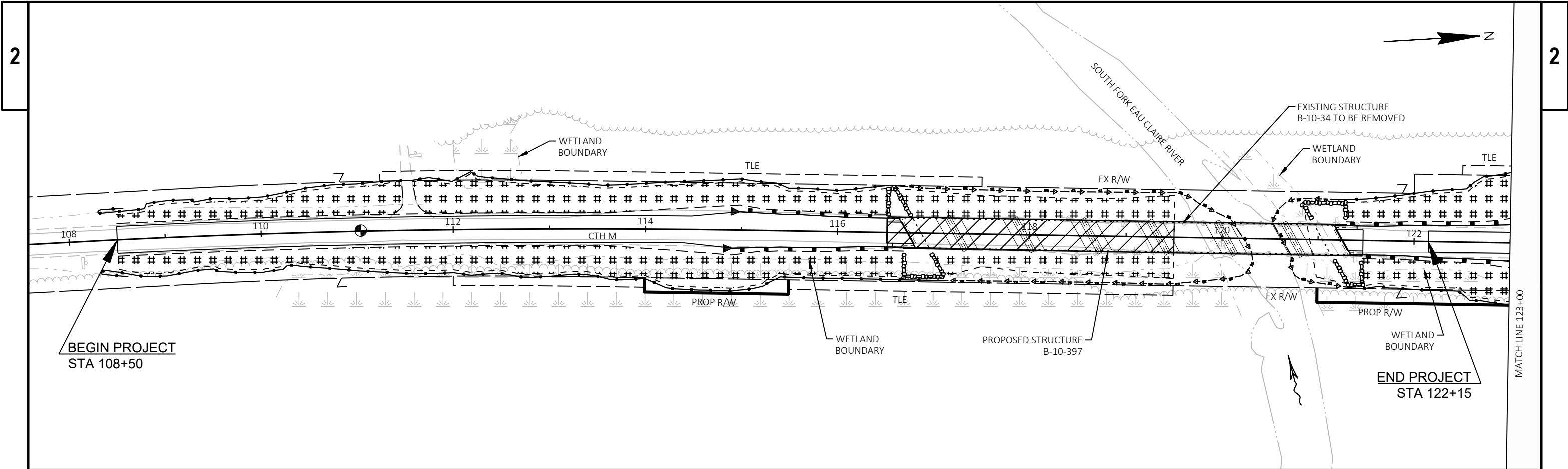
- LEGEND**
- (A) FERTILIZER TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY
- (B) SALVAGED TOPSOIL AND EROSION MAT

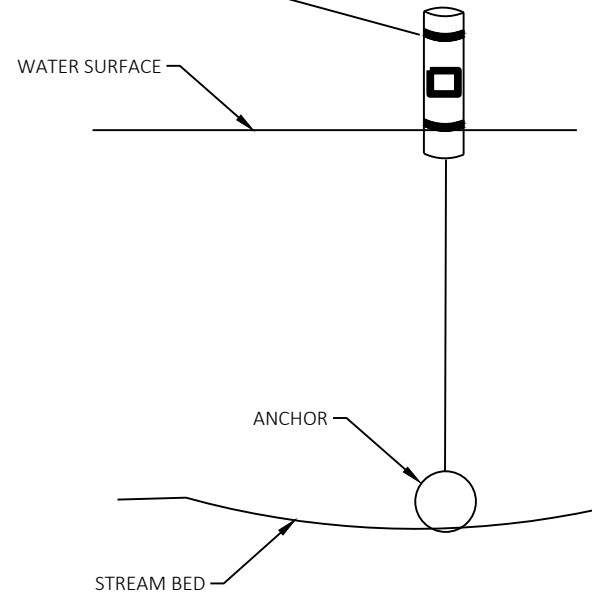
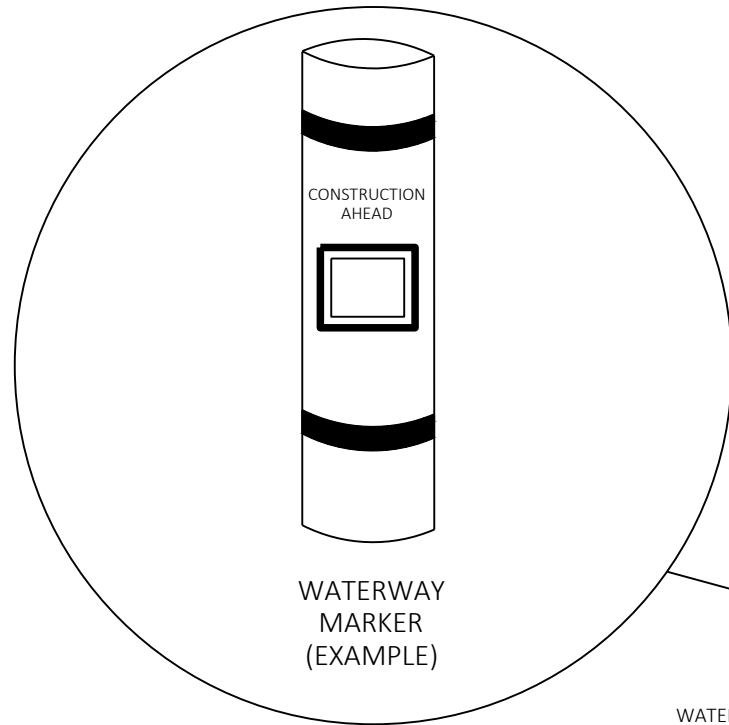


GENERAL NOTES:  
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE  
TURN-AROUND. AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

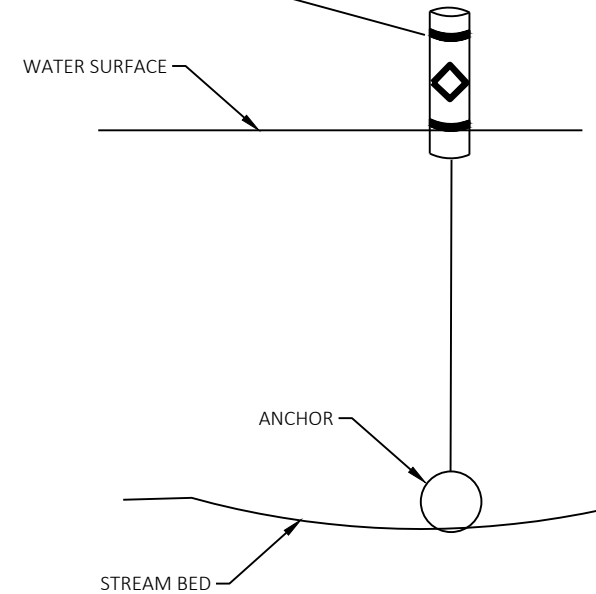
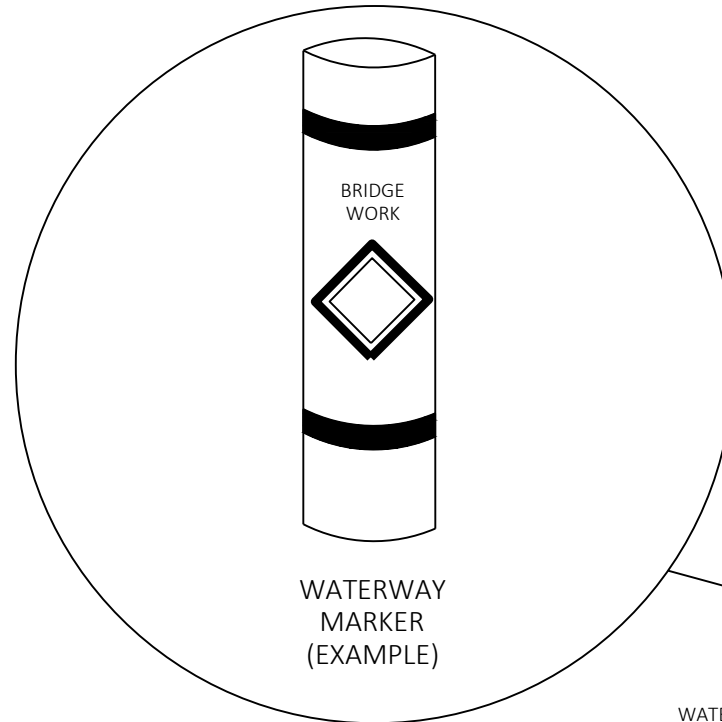
PLAN VIEW

TEMPORARY SMALL ANIMAL TURN-AROUND  
STA 108+50 RT & LT  
STA 124+70 RT & LT





**CONSTRUCTION AHEAD MARKER**  
(TO BE PLACED 200 FEET FROM BRIDGE)



**BRIDGE WORK MARKER**  
(TO BE PLACED 100 FEET FROM BRIDGE)

NOTES:

1. INSTALL PRIOR TO CONSTRUCTION
2. REMOVE AFTER ALL IN-STREAM WORK IS COMPLETED AND ALL IN-WATER OBSTRUCTIONS SUCH AS COFFERDAMS OR CAUSEWAYS ARE COMPLETELY REMOVED.

**WATERWAY MARKER PLACEMENT DETAIL**  
USE AS DIRECTED BY COAST GUARD OR DNR PERMIT

Estimate Of Quantities

7839-03-71

| Line | Item       | Item Description                                                        | Unit | Total       | Qty         |
|------|------------|-------------------------------------------------------------------------|------|-------------|-------------|
| 0002 | 201.0105   | Clearing                                                                | STA  | 9.000       | 9.000       |
| 0004 | 201.0205   | Grubbing                                                                | STA  | 9.000       | 9.000       |
| 0006 | 203.0100   | Removing Small Pipe Culverts                                            | EACH | 1.000       | 1.000       |
| 0008 | 203.0260   | Removing Structure Over Waterway Minimal Debris (structure) 01. B-10-34 | EACH | 1.000       | 1.000       |
| 0010 | 204.0165   | Removing Guardrail                                                      | LF   | 326.000     | 326.000     |
| 0012 | 204.0180   | Removing Delineators and Markers                                        | EACH | 3.000       | 3.000       |
| 0014 | 205.0100   | Excavation Common                                                       | CY   | 3,307.000   | 3,307.000   |
| 0016 | 206.1001   | Excavation for Structures Bridges (structure) 01. B-10-397              | EACH | 1.000       | 1.000       |
| 0018 | 206.5001   | Cofferdams (structure) 01. B-10-397                                     | EACH | 6.000       | 6.000       |
| 0020 | 208.0100   | Borrow                                                                  | CY   | 7,370.000   | 7,370.000   |
| 0022 | 210.1500   | Backfill Structure Type A                                               | TON  | 310.000     | 310.000     |
| 0024 | 213.0100   | Finishing Roadway (project) 01. 7839-03-71                              | EACH | 1.000       | 1.000       |
| 0026 | 305.0110   | Base Aggregate Dense 3/4-Inch                                           | TON  | 340.000     | 340.000     |
| 0028 | 305.0120   | Base Aggregate Dense 1 1/4-Inch                                         | TON  | 2,610.000   | 2,610.000   |
| 0030 | 415.0060   | Concrete Pavement 6-Inch                                                | SY   | 32.000      | 32.000      |
| 0032 | 415.0410   | Concrete Pavement Approach Slab                                         | SY   | 104.000     | 104.000     |
| 0034 | 455.0605   | Tack Coat                                                               | GAL  | 215.000     | 215.000     |
| 0036 | 465.0105   | Asphaltic Surface                                                       | TON  | 770.000     | 770.000     |
| 0038 | 502.0100   | Concrete Masonry Bridges                                                | CY   | 1,609.000   | 1,609.000   |
| 0040 | 502.3200   | Protective Surface Treatment                                            | SY   | 1,867.000   | 1,867.000   |
| 0042 | 502.9000.S | Underwater Substructure Inspection (structure) 01. B-10-397             | EACH | 6.000       | 6.000       |
| 0044 | 505.0400   | Bar Steel Reinforcement HS Structures                                   | LB   | 16,220.000  | 16,220.000  |
| 0046 | 505.0600   | Bar Steel Reinforcement HS Coated Structures                            | LB   | 272,080.000 | 272,080.000 |
| 0048 | 513.4061   | Railing Tubular Type M                                                  | LF   | 959.000     | 959.000     |
| 0050 | 516.0500   | Rubberized Membrane Waterproofing                                       | SY   | 22.000      | 22.000      |
| 0052 | 520.1018   | Apron Endwalls for Culvert Pipe 18-Inch                                 | EACH | 2.000       | 2.000       |
| 0054 | 520.3318   | Culvert Pipe Class III-A 18-Inch                                        | LF   | 18.000      | 18.000      |
| 0056 | 550.0500   | Pile Points                                                             | EACH | 72.000      | 72.000      |
| 0058 | 550.1120   | Piling Steel HP 12-Inch X 53 Lb                                         | LF   | 4,100.000   | 4,100.000   |
| 0060 | 606.0300   | Riprap Heavy                                                            | CY   | 365.000     | 365.000     |
| 0062 | 612.0406   | Pipe Underdrain Wrapped 6-Inch                                          | LF   | 220.000     | 220.000     |
| 0064 | 614.2300   | MGS Guardrail 3                                                         | LF   | 300.000     | 300.000     |
| 0066 | 614.2500   | MGS Thrie Beam Transition                                               | LF   | 157.600     | 157.600     |
| 0068 | 614.2610   | MGS Guardrail Terminal EAT                                              | EACH | 4.000       | 4.000       |
| 0070 | 618.0100   | Maintenance and Repair of Haul Roads (project) 01. 7839-03-71           | EACH | 1.000       | 1.000       |
| 0072 | 619.1000   | Mobilization                                                            | EACH | 1.000       | 1.000       |
| 0074 | 625.0500   | Salvaged Topsoil                                                        | SY   | 9,340.000   | 9,340.000   |
| 0076 | 628.1504   | Silt Fence                                                              | LF   | 2,595.000   | 2,595.000   |
| 0078 | 628.1520   | Silt Fence Maintenance                                                  | LF   | 2,595.000   | 2,595.000   |
| 0080 | 628.1905   | Mobilizations Erosion Control                                           | EACH | 5.000       | 5.000       |
| 0082 | 628.1910   | Mobilizations Emergency Erosion Control                                 | EACH | 12.000      | 12.000      |
| 0084 | 628.2008   | Erosion Mat Urban Class I Type B                                        | SY   | 9,340.000   | 9,340.000   |
| 0086 | 628.6005   | Turbidity Barriers                                                      | SY   | 960.000     | 960.000     |
| 0088 | 629.0210   | Fertilizer Type B                                                       | CWT  | 4.150       | 4.150       |
| 0090 | 630.0120   | Seeding Mixture No. 20                                                  | LB   | 255.000     | 255.000     |
| 0092 | 630.0200   | Seeding Temporary                                                       | LB   | 255.000     | 255.000     |
| 0094 | 630.0500   | Seed Water                                                              | MGAL | 420.000     | 420.000     |
| 0096 | 634.0614   | Posts Wood 4x6-Inch X 14-FT                                             | EACH | 4.000       | 4.000       |
| 0098 | 637.2230   | Signs Type II Reflective F                                              | SF   | 12.000      | 12.000      |

Estimate Of Quantities

7839-03-71

| Line | Item     | Item Description                                                   | Unit | Total     | Qty       |
|------|----------|--------------------------------------------------------------------|------|-----------|-----------|
| 0100 | 638.2602 | Removing Signs Type II                                             | EACH | 4.000     | 4.000     |
| 0102 | 638.3000 | Removing Small Sign Supports                                       | EACH | 4.000     | 4.000     |
| 0104 | 642.5001 | Field Office Type B                                                | EACH | 1.000     | 1.000     |
| 0106 | 643.0420 | Traffic Control Barricades Type III                                | DAY  | 4,212.000 | 4,212.000 |
| 0108 | 643.0705 | Traffic Control Warning Lights Type A                              | DAY  | 6,552.000 | 6,552.000 |
| 0110 | 643.0900 | Traffic Control Signs                                              | DAY  | 3,276.000 | 3,276.000 |
| 0112 | 643.5000 | Traffic Control                                                    | EACH | 1.000     | 1.000     |
| 0114 | 645.0111 | Geotextile Type DF Schedule A                                      | SY   | 58.000    | 58.000    |
| 0116 | 645.0120 | Geotextile Type HR                                                 | SY   | 580.000   | 580.000   |
| 0118 | 646.1020 | Marking Line Epoxy 4-Inch                                          | LF   | 3,722.000 | 3,722.000 |
| 0120 | 650.4500 | Construction Staking Subgrade                                      | LF   | 915.000   | 915.000   |
| 0122 | 650.5000 | Construction Staking Base                                          | LF   | 915.000   | 915.000   |
| 0124 | 650.6501 | Construction Staking Structure Layout (structure) 01. B-10-397     | EACH | 1.000     | 1.000     |
| 0126 | 650.9911 | Construction Staking Supplemental Control (project) 01. 7839-03-71 | EACH | 1.000     | 1.000     |
| 0128 | 650.9920 | Construction Staking Slope Stakes                                  | LF   | 1,170.000 | 1,170.000 |
| 0130 | 690.0150 | Sawing Asphalt                                                     | LF   | 376.000   | 376.000   |
| 0132 | 715.0502 | Incentive Strength Concrete Structures                             | DOL  | 9,654.000 | 9,654.000 |
| 0134 | 715.0720 | Incentive Compressive Strength Concrete Pavement                   | DOL  | 500.000   | 500.000   |
| 0136 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR                        | HRS  | 1,500.000 | 1,500.000 |
| 0138 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR                          | HRS  | 990.000   | 990.000   |

3

CLEARING AND GRUBBING

| CLEARING AND GRUBBING |    |         |                   |                             |                             | 203.0100<br>REMOVING<br>SMALL PIPE<br>CULVERTS<br>EACH | 204.0165<br>REMOVING<br>GUARDRAIL<br>LF | 204.0180<br>REMOVING<br>DELINEATORS<br>AND MARKERS<br>EACH | 305.0110<br>BASE<br>AGGREGATE<br>DENSE 3/4-INCH<br>TON |         |                   |            |    |         |                |         |     |
|-----------------------|----|---------|-------------------|-----------------------------|-----------------------------|--------------------------------------------------------|-----------------------------------------|------------------------------------------------------------|--------------------------------------------------------|---------|-------------------|------------|----|---------|----------------|---------|-----|
| STATION               | TO | STATION | LOCATION          | 201.0105<br>CLEARING<br>STA | 201.0205<br>GRUBBING<br>STA | STATION                                                | LOCATION                                | STATION                                                    | TO                                                     | STATION | LOCATION          | STATION    | TO | STATION | LOCATION       | STATION |     |
| 109+00                | -  | 117+00  | SOUTH APPROACH RT | 8                           | 8                           | 111+53                                                 | BAD FE LT                               | 118+27                                                     | -                                                      | 119+10  | SOUTH APPROACH LT | 108+50     | -  | 116+74  | SOUTH APPROACH | 220     |     |
| 122+00                | -  | 123+00  | NORTH APPROACH RT | 1                           | 1                           |                                                        |                                         | 118+43                                                     | -                                                      | 119+25  | SOUTH APPROACH RT | 121+24     | -  | 124+41  | NORTH APPROACH | 120     |     |
| TOTAL 0010            |    |         |                   | 9                           | 9                           | TOTAL 0010                                             |                                         | 1                                                          | TOTAL 0010                                             |         | 326               | TOTAL 0010 |    | 3       | TOTAL 0010     |         | 340 |

3

| DIVISION            | FROM/TO STATION  | LOCATION       | 205.0100<br>COMMON EXCAVATION<br>(1) |                | SALVAGED/UNUSABLE<br>PAVEMENT MATERIAL<br>(3) | AVAILABLE<br>MATERIAL<br>(4) | UNEXPANDED<br>FILL | EXPANDED FILL<br>(5) | MASS ORDINATE +/-<br>(6) | 208.0100<br>BORROW |
|---------------------|------------------|----------------|--------------------------------------|----------------|-----------------------------------------------|------------------------------|--------------------|----------------------|--------------------------|--------------------|
|                     |                  |                | CUT<br>(2)                           | EBS EXCAVATION |                                               |                              |                    | FACTOR<br>1.25       |                          |                    |
| DIVISION 1 - CTH M  | 108+50 TO 116+72 | SOUTH APPROACH | 3,111                                |                | 349                                           | 2,762                        | 6,653              | 8,316                | -5,554                   | 5,554              |
|                     | 121+26 TO 122+70 | NORTH APPROACH | 196                                  |                | 28                                            | 168                          | 1,587              | 1,984                | -1,816                   | 1,816              |
| DIVISION 1 SUBTOTAL |                  |                | 3,307                                | 0              | 377                                           | 2,930                        | 8,240              | 10,300               | -7,370                   |                    |
| GRAND TOTAL         |                  |                | 3,307                                | 0              | 377                                           | 2,930                        | 8,240              | 10,300               | -7,370                   | 7,370              |
| TOTAL COMMON EXC    |                  |                | 3,307                                |                |                                               |                              |                    |                      |                          |                    |

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNSUAABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (3) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUAABLE PAVEMENT MATERIAL
- (5) EXPANDED FILL FACTOR = 1.25
- (6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (7) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

CONCRETE PAVEMENT ITEMS

|            |    |         |                |       | CONCRETE PAVEMENT ITEMS |         |    |         |             |               |
|------------|----|---------|----------------|-------|-------------------------|---------|----|---------|-------------|---------------|
|            |    |         |                |       | 305.0120                |         |    |         |             |               |
|            |    |         |                |       | BASE                    |         |    |         |             |               |
|            |    |         |                |       | AGGREGATE               |         |    |         |             |               |
|            |    |         |                |       | DENSE 1 1/4-            |         |    |         |             |               |
|            |    |         |                |       | INCH                    |         |    |         |             |               |
| STATION    | TO | STATION | LOCATION       | TON   |                         |         |    |         | 415.0060    | 415.0410      |
|            |    |         |                |       |                         |         |    |         | CONCRETE    | CONCRETE      |
|            |    |         |                |       |                         |         |    |         | PAVEMENT 6- | PAVEMENT      |
|            |    |         |                |       |                         |         |    |         | INCH        | APPROACH SLAB |
|            |    |         |                |       |                         | STATION | TO | STATION | SY          | SY            |
| 108+50     | -  | 116+74  | SOUTH APPROACH | 2,050 |                         |         |    |         |             |               |
| 121+24     | -  | 122+15  | NORTH APPROACH | 560   |                         | 116+50  | -  | 116+74  | 16          | 52            |
|            |    |         |                |       |                         | 121+24  | -  | 121+48  | 16          | 52            |
| TOTAL 0010 |    |         |                | 2,610 | TOTAL 0010              |         |    |         | 32          | 104           |

ASPHALT ITEMS

| ASPHALT ITEMS |    |         |                |           |           | 520.1018         | 520.3318        |
|---------------|----|---------|----------------|-----------|-----------|------------------|-----------------|
|               |    |         |                |           |           | APRON            |                 |
|               |    |         |                |           |           | ENDWALLS FOR     | CULVERT PIPE    |
|               |    |         |                |           |           | CULVERT PIPE 18- | CLASS III-A 18- |
| STATION       | TO | STATION | LOCATION       | TACK COAT | ASPHALTIC | INCH             | INCH            |
|               |    |         |                | GAL       | SURFACE   | EACH             | LF              |
|               |    |         |                |           | TON       |                  |                 |
| 108+50        | -  | 116+74  | SOUTH APPROACH | 185       | 660       |                  |                 |
| 121+24        | -  | 122+15  | NORTH APPROACH | 30        | 110       | 111+53           | BAD FE LT       |
|               |    |         |                |           |           | 2                | 18              |
| TOTAL 0010    |    |         |                | 215       | 770       | TOTAL 0010       | 2               |
|               |    |         |                |           |           |                  | 18              |

MGS GUARDRAIL ITEMS

|            |    |         |                   | 614.2300        | 614.2500                  | 614.2610                   |
|------------|----|---------|-------------------|-----------------|---------------------------|----------------------------|
|            |    |         |                   | MGS GUARDRAIL 3 | MGS THRIE BEAM TRANSITION | MGS GUARDRAIL TERMINAL EAT |
| STATION    | TO | STATION | LOCATION          | LF              | LF                        | EACH                       |
| 114+90     | -  | 116+72  | SOUTH APPROACH RT | 87.5            | 39.4                      | 1                          |
| 114+98     | -  | 116+53  | SOUTH APPROACH LT | 62.5            | 39.4                      | 1                          |
| 121+25     | -  | 123+05  | NORTH APPROACH LT | 87.5            | 39.4                      | 1                          |
| 121+42     | -  | 122+97  | NORTH APPROACH RT | 62.5            | 39.4                      | 1                          |
| TOTAL 0010 |    |         |                   | 300             | 157.6                     | 4                          |

SILT FENCE ITEMS

|            |    |         |                   | 628.1504   | 628.1520               |
|------------|----|---------|-------------------|------------|------------------------|
|            |    |         |                   | SILT FENCE | SILT FENCE MAINTENANCE |
| STATION    | TO | STATION | LOCATION          | LF         | LF                     |
| 108+50     | -  | 116+71  | SOUTHERN APPROACH | 1,790      | 1,790                  |
| 121+24     | -  | 124+41  | NORTHERN APPROACH | 805        | 805                    |
| TOTAL 0010 |    |         |                   | 2,595      | 2,595                  |

SIGNING ITEMS

|                             |  |      |  | 634.0614                    | 637.2230                                    |
|-----------------------------|--|------|--|-----------------------------|---------------------------------------------|
|                             |  |      |  | POSTS WOOD 4X6-INCH X 14-FT | SIGNS TYPE II REFLECTIVE F                  |
| LOCATION                    |  | EACH |  | SF                          |                                             |
| PROPOSED STRUCTURE B-10-397 |  | 4    |  | 12                          | PROPOSED BRIDGE HASH MARKS; W5-52L & W5-52R |
| TOTAL 0010                  |  | 4    |  | 12                          |                                             |

NOTE: PLACE BRIDGE HASH MARK SIGNS PER SDD "SIGNING AND MARKING FOR TWO LANE BRIDGES"

LANDSCAPING ITEMS

|            |    |         |                           | 625.0500         | 628.2008                         | 629.0210          | 630.0120               | 630.0200          | 630.0500   |
|------------|----|---------|---------------------------|------------------|----------------------------------|-------------------|------------------------|-------------------|------------|
|            |    |         |                           | SALVAGED TOPSOIL | EROSION MAT URBAN CLASS I TYPE B | FERTILIZER TYPE B | SEEDING MIXTURE NO. 20 | SEEDING TEMPORARY | SEED WATER |
| STATION    | TO | STATION | LOCATION                  | SY               | SY                               | CWT               | LB                     | LB                | MGAL       |
| 108+50     | -  | 116+71  | SOUTHERN APPROACH         | 4,460            | 4,460                            | 2.82              | 120                    | 120               | 200        |
| 116+71     | -  | 121+24  | STRUCTURE EXCAVATION AREA | 2,360            | 2,360                            | 0.64              | 65                     | 65                | 110        |
| 121+24     | -  | 124+41  | NORTHERN APPROACH         | 2,520            | 2,520                            | 0.69              | 70                     | 70                | 110        |
| TOTAL 0010 |    |         |                           | 9,340            | 9,340                            | 4.15              | 255                    | 255               | 420        |

|            |  | 628.1905                      | 628.1910                                |
|------------|--|-------------------------------|-----------------------------------------|
|            |  | MOBILIZATIONS EROSION CONTROL | MOBILIZATIONS EMERGENCY EROSION CONTROL |
| LOCATION   |  | EACH                          | EACH                                    |
| PROJECT    |  | 5                             | 12                                      |
| TOTAL 0010 |  | 5                             | 12                                      |

| STATION    | TO | STATION | LOCATION       | 628.6005           |
|------------|----|---------|----------------|--------------------|
|            |    |         |                | TURBIDITY BARRIERS |
|            |    |         |                | SY                 |
| 116+60     | -  | 120+22  | SOUTH ABUTMENT | 740                |
| 120+55     | -  | 121+47  | NORTH ABUTMENT | 220                |
| TOTAL 0010 |    |         |                | 960                |

| LOCATION   | 642.5001            |
|------------|---------------------|
|            | FIELD OFFICE TYPE B |
|            | EACH                |
| PROJECT    | 1                   |
| TOTAL 0010 | 1                   |

REMOVING SIGNING ITEMS

|                            |  | 638.2602               | 638.3000                     | REMARKS                    |
|----------------------------|--|------------------------|------------------------------|----------------------------|
|                            |  | REMOVING SIGNS TYPE II | REMOVING SMALL SIGN SUPPORTS |                            |
| LOCATION                   |  | EACH                   | EACH                         |                            |
| EXISTING STRUCTURE B-10-34 |  | 4                      | 4                            | EXISTING BRIDGE HASH MARKS |
| TOTAL 0010                 |  | 4                      | 4                            |                            |

|            |  | 643.0420                   | 643.0705                              | 643.0900              | 643.5000        |
|------------|--|----------------------------|---------------------------------------|-----------------------|-----------------|
|            |  | TRAFFIC CONTROL BARRICADES | TRAFFIC CONTROL WARNING LIGHTS TYPE A | TRAFFIC CONTROL SIGNS | TRAFFIC CONTROL |
| LOCATION   |  | TYPE III DAY               | DAY                                   | DAY                   | EACH            |
| PROJECT    |  | 4,212                      | 6,552                                 | 3,276                 | 1               |
| TOTAL 0010 |  | 4,212                      | 6,552                                 | 3,276                 | 1               |

| 646.1020<br>MARKING LINE<br>EPOXY 4-INCH |    |         |          |       |                                   |
|------------------------------------------|----|---------|----------|-------|-----------------------------------|
| STATION                                  | TO | STATION | LOCATION | LF    | REMARKS                           |
| 108+50                                   | -  | 115+00  | CTH M    | 813   | YELLOW CENTERLINE (SOLID W/ SKIP) |
| 115+00                                   |    | 122+15  | CTH M    | 179   | YELLOW CENTERLINE (SKIPS)         |
| 108+50                                   | -  | 122+15  | CTH M    | 2,730 | WHITE EDGELINE                    |
| TOTAL 0010                               |    |         |          | 3,722 |                                   |

CONSTRUCTION STAKING ITEMS

|            |    |         |                | 650.4500     | 650.5000     | 650.9911.01    | 650.9920      |
|------------|----|---------|----------------|--------------|--------------|----------------|---------------|
|            |    |         |                | CONSTRUCTION |              | CONSTRUCTION   |               |
|            |    |         |                | STAKING      |              | STAKING        |               |
|            |    |         |                | SUBGRADE     | CONSTRUCTION | SUPPLEMENTAL   | CONSTRUCTION  |
|            |    |         |                | LF           | STAKING BASE | CONTROL        | STAKING SLOPE |
|            |    |         |                |              | LF           | (PROJECT) (01. | STAKES        |
|            |    |         |                |              |              | 7839-03-71)    | LF            |
| STATION    | TO | STATION | LOCATION       | LF           | LF           | EACH           | LF            |
| 108+50     | -  | 116+74  | SOUTH APPROACH | 824          | 824          | --             | 824           |
| 121+24     | -  | 122+15  | NORTH APPROACH | 91           | 91           | --             | 91            |
| 122+15     | -  | 124+70  | NORTH APPROACH | --           | --           | --             | 255           |
| PROJECT    |    |         |                | --           | --           | 1              | --            |
| TOTAL 0010 |    |         |                | 915          | 915          | 1              | 1,170         |

| STATION    | LOCATION      | 690.0150<br>SAWING<br>ASPHALT<br>LF |
|------------|---------------|-------------------------------------|
| 108+50     | BEGIN PROJECT | 22                                  |
| 122+15     | END PROJECT   | 354                                 |
| TOTAL 0010 |               | 376                                 |

| CONVENTIONAL SYMBOLS                                        |  |                                                    |  |
|-------------------------------------------------------------|--|----------------------------------------------------|--|
| SECTION LINE                                                |  | SECTION CORNER SYMBOL                              |  |
| QUARTER LINE                                                |  | SECTION CORNER MONUMENT                            |  |
| SIXTEENTH LINE                                              |  | GEODETIC SURVEY MONUMENT                           |  |
| NEW REFERENCE LINE                                          |  | SIXTEENTH CORNER MONUMENT                          |  |
| NEW R/W LINE                                                |  | SIGN                                               |  |
| EXISTING R/W OR HE LINE                                     |  | OFF-PREMISE SIGN                                   |  |
| PROPERTY LINE                                               |  | COMPENSABLE                                        |  |
| LOT, TIE & OTHER MINOR LINES                                |  | NON-COMPENSABLE                                    |  |
| SLOPE INTERCEPT                                             |  | ELECTRIC POLE                                      |  |
| CORPORATE LIMITS                                            |  | TELEPHONE POLE                                     |  |
| UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC.)       |  | PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)        |  |
| NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)              |  | ACCESS RESTRICTED BY ACQUISITION                   |  |
| TEMPORARY LIMITED EASEMENT AREA                             |  | NO ACCESS (BY STATUTORY AUTHORITY)                 |  |
| EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT) |  | ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL) |  |
| TRANSMISSION STRUCTURES                                     |  | NO ACCESS (NEW HIGHWAY)                            |  |
| BUILDING                                                    |  | PARCEL NUMBER                                      |  |
| TO BE REMOVED                                               |  | UTILITY NUMBER                                     |  |
| BRIDGE                                                      |  | PARALLEL OFFSETS                                   |  |
| CULVERT                                                     |  |                                                    |  |

CONVENTIONAL ABBREVIATIONS

|                            |       |                             |        |
|----------------------------|-------|-----------------------------|--------|
| ACCESS RIGHTS              | AR    | POINT OF COMPOUND CURVE     | PCC    |
| ACRES                      | AC    | POINT OF INTERSECTION       | PI     |
| AHEAD                      | AH    | PROPERTY LINE               | PL     |
| ALUMINUM                   | ALUM  | RECORDED AS                 | (100') |
| AND OTHERS                 | ET AL | REEL / IMAGE                | R/I    |
| BACK                       | BK    | REFERENCE LINE              | R/L    |
| BLOCK                      | BLK   | REMAINING                   | REM    |
| CENTERLINE                 | C/L   | RESTRICTIVE DEVELOPMENT     | RDE    |
| CERTIFIED SURVEY MAP       | CSM   | EASEMENT                    |        |
| CONCRETE                   | CONC  | RIGHT                       | RT     |
| COUNTY                     | CO    | RIGHT OF WAY                | R/W    |
| COUNTY TRUNK HIGHWAY       | CTH   | SECTION                     | SEC    |
| DISTANCE                   | DIST  | SEPTIC VENT                 | SEPV   |
| CORNER                     | COR   | SQUARE FEET                 | SF     |
| DOCUMENT NUMBER            | DOC   | STATE TRUNK HIGHWAY         | STH    |
| EASEMENT                   | EASE  | STATION                     | STA    |
| EXISTING                   | EX    | TELEPHONE PEDESTAL          | TP     |
| GAS VALVE                  | GV    | TEMPORARY LIMITED EASEMENT  | TLE    |
| GRID NORTH                 | GN    |                             |        |
| HIGHWAY EASEMENT           | HE    | TRANSPORTATION PROJECT PLAT | TPP    |
| IDENTIFICATION             | ID    | UNITED STATES HIGHWAY       | USH    |
| LAND CONTRACT              | LC    | VOLUME                      | V      |
| LEFT                       | LT    |                             |        |
| MONUMENT                   | MON   |                             |        |
| NATIONAL GEODETIC SURVEY   | NGS   |                             |        |
| NUMBER                     | NO    |                             |        |
| OUTLOT                     | OL    |                             |        |
| PAGE                       | P     |                             |        |
| POINT OF TANGENCY          | PT    |                             |        |
| PERMANENT LIMITED EASEMENT | PLE   |                             |        |
| POINT OF BEGINNING         | POB   |                             |        |
| POINT OF CURVATURE         | PC    |                             |        |

CURVE DATA ABBREVIATIONS

|                    |         |
|--------------------|---------|
| LONG CHORD         | LCH     |
| LONG CHORD BEARING | LCB     |
| RADIUS             | R       |
| DEGREE OF CURVE    | D       |
| CENTRAL ANGLE      | Δ/DELTA |
| LENGTH OF CURVE    | L       |
| TANGENT            | T       |
| DIRECTION AHEAD    | DA      |
| DIRECTION BACK     | DB      |

CONVENTIONAL UTILITY SYMBOLS

|                             |  |
|-----------------------------|--|
| WATER                       |  |
| GAS                         |  |
| TELEPHONE                   |  |
| OVERHEAD TRANSMISSION LINES |  |
| ELECTRIC                    |  |
| CABLE TELEVISION            |  |
| FIBER OPTIC                 |  |
| SANITARY SEWER              |  |
| STORM SEWER                 |  |
| ELECTRIC TOWER              |  |

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), CLARK COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

PROPERTY LINES SHOWN ON THIS PLAT FOR PROPERTIES BEING IMPACTED ARE DRAWN FROM DATA DERIVED FROM FILED/RECORDED MAPS AND DOCUMENTS OF PUBLIC RECORD. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS AND/OR EXISTING OCCUPATIONAL LINES.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE CLARK COUNTY

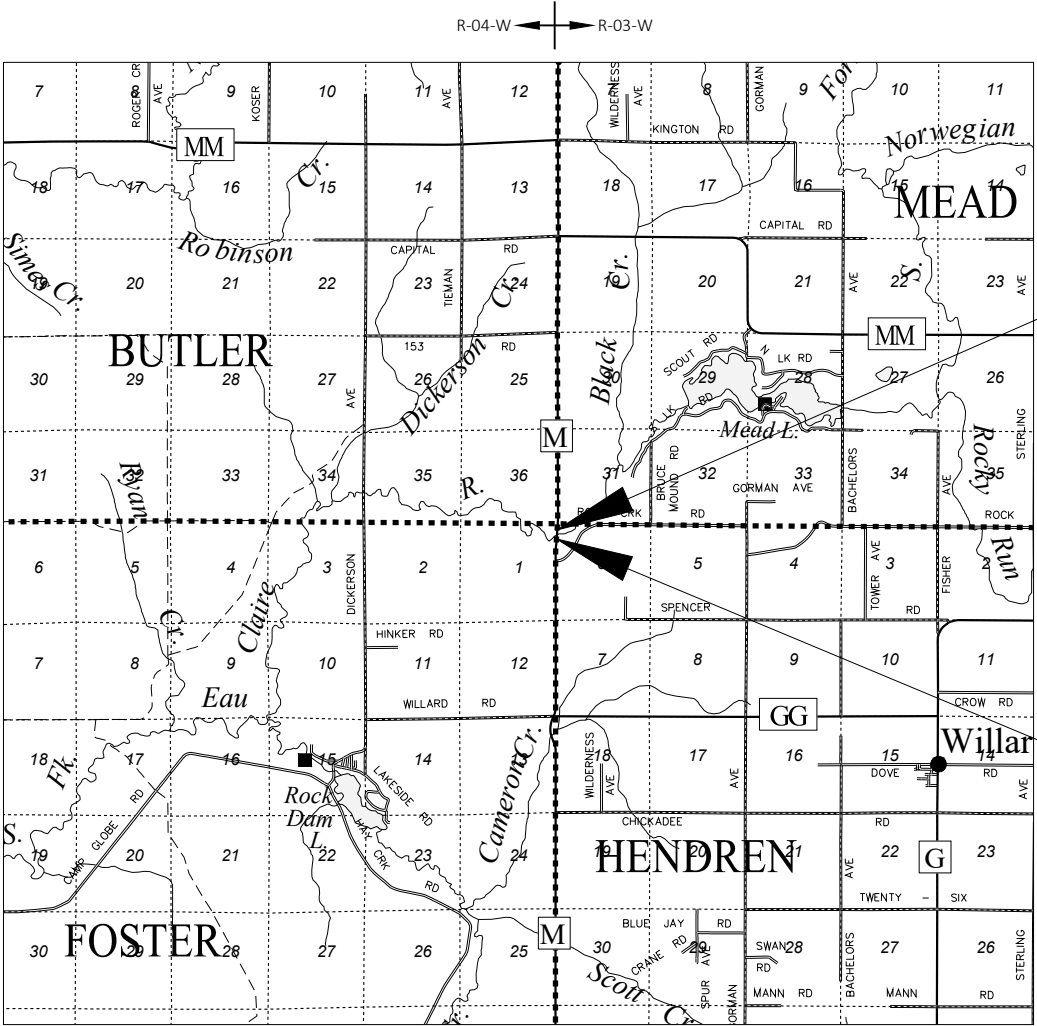
PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE DETAIL PAGES.

EXISTING RIGHT OF WAY LINES ESTABLISHED FROM PREVIOUS PROJECT S0684(3)

GRAPHIC REPRESENTATION AND REFERENCE PURPOSES ONLY DISCLAIMER:  
THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY.  
DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

|                                                                                                        |                 |                 |
|--------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| R/W PROJECT NUMBER<br>7839-03-01                                                                       | SHEET<br>NUMBER | TOTAL<br>SHEETS |
| FEDERAL PROJECT NUMBER<br>N/A                                                                          | 4.01            | 4               |
| PLAT OF RIGHT OF WAY REQUIRED FOR<br><br>CTH I - THORP<br><br>S FORK EAU CLAIRE RIVER BRIDGE B-10-0034 |                 |                 |
| CTH M                                                                                                  | CLARK COUNTY    |                 |
| CONSTRUCTION PROJECT NUMBER<br>7839-03-71                                                              |                 |                 |



END RELOCATION ORDER

STA 225+00

95.55' SOUTH AND 85.14' EAST OF THE  
NORTHEAST CORNER OF SEC 01, T-26-N, R-04-W

BEGIN RELOCATION ORDER

STA 211+00

1,492.06' SOUTH AND 12.94' WEST OF THE  
NORTHEAST CORNER OF SEC 01, T-26-N, R-04-W

**CORRE**  
ENGINEERING

MADISON | EAU CLAIRE | WAUKESHA | APPLETON | TOMAH | WAUSAU



I, SCOTT J. KOFFARNUS, PROFESSIONAL LAND SURVEYOR, S-2782, HEREBY CERTIFY THAT I HAVE SURVEYED THE LAND DESCRIBED HEREON AND THAT THE MAP HEREON IS A CORRECT REPRESENTATION OF THAT SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATE: 4/03/2024

CLARK COUNTY

Brian Duell Clark Co Hwv Commissioner

DATE: 04/03/24

APPROVED FOR THE COUNTY (Signature)

# SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

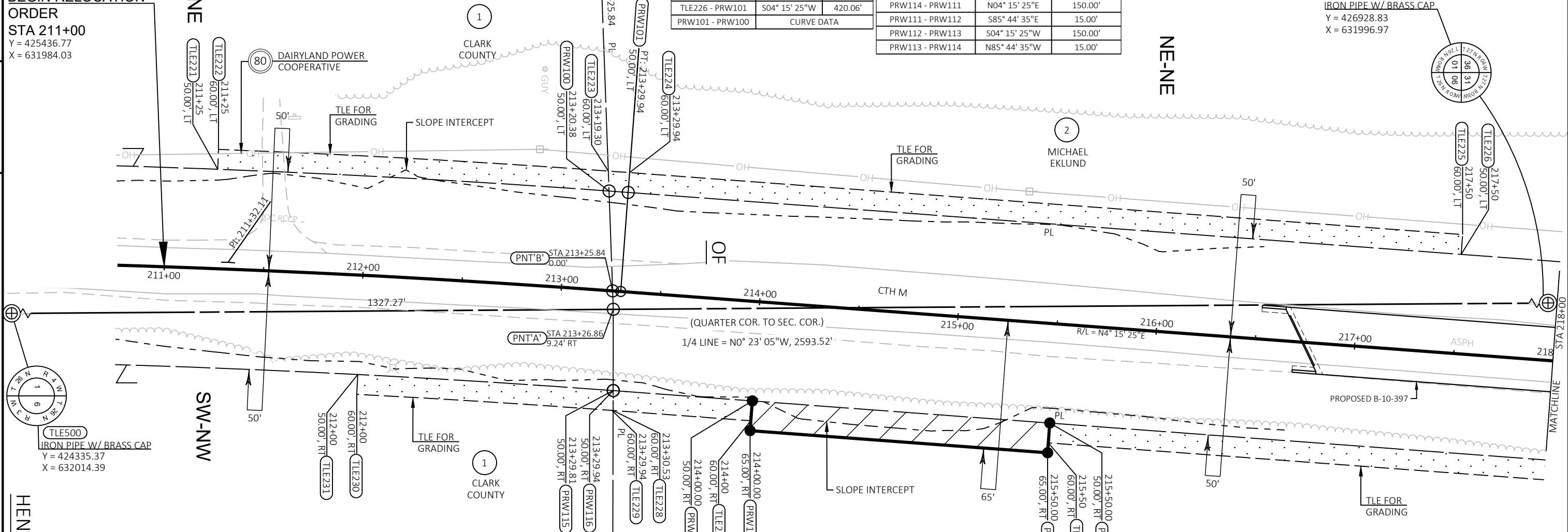
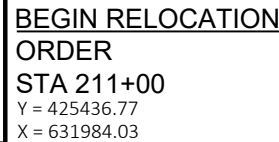
| PARCEL<br>NUMBER | SHEET<br>NUMBER | OWNER                                                                                              | INTEREST<br>REQUIRED | RIGHT OF WAY<br>REQUIRED |                  |               | TLE<br>REQUIRED |
|------------------|-----------------|----------------------------------------------------------------------------------------------------|----------------------|--------------------------|------------------|---------------|-----------------|
|                  |                 |                                                                                                    |                      | NEW<br>(SF)              | EXISTING<br>(SF) | TOTAL<br>(SF) | TOTAL<br>(SF)   |
| 1                | 4.03            | CLARK COUNTY                                                                                       | TLE                  | ---                      | ---              | ---           | 3254            |
| 2                | 4.03 - 4.04     | MICHAEL EKLUND                                                                                     | TLE                  | ---                      | ---              | ---           | 5450            |
| 3                | 4.03 - 4.04     | WILLIAM WITKOWSKI AND CAROLE B. WITKOWSKI; AND WILLIAM E. AND CAROL B. WITKOWSKI IRREVOCABLE TRUST | FEE / TLE            | 6903                     | ---              | 6903          | 5542            |
|                  |                 |                                                                                                    |                      |                          |                  |               |                 |
| 80               | 4.03, 4.04      | DAIRYLAND POWER COOPERATIVE                                                                        | RELEASE OF RIGHTS    |                          |                  |               |                 |
| 81               | 4.03, 4.04      | CLARK COUNTY ELECTRIC COOPERATIVE                                                                  | RELEASE OF RIGHTS    |                          |                  |               |                 |

|                     | <u>PRW100 - TLE221</u>   | <u>TLE222 - TLE223</u> | <u>TLE223 - TLE224</u> | <u>PRW101 - PRW100</u> |
|---------------------|--------------------------|------------------------|------------------------|------------------------|
| PI STA = 211+32.11  |                          |                        |                        |                        |
| Y = 425468.915      | L = 197.08'              | L = 196.33'            | L = 10.76'             | L = 9.65'              |
| X = 631981.794      | LCH = 197.08'            | LCH = 196.32'          | LCH = 10.76'           | LCH = 9.65'            |
| DELTA = 3°57'30" RT | CB = S03° 11' 04"W       | CB = S03° 10' 45"W     | CB = N04° 12' 14"E     | CB = S04° 12' 33"W     |
| D = 1°00'00"        | R = 5779.58'             | R = 5789.58'           | R = 5789.58'           | R = 5779.58'           |
| T = 198.00'         | Δ = 001° 57' 14"         | Δ = 001° 56' 35"       | Δ = 000° 06' 23"       | Δ = 000° 05' 44"       |
| L = 395.83'         | <u>PNT 115 - PNT 116</u> | <u>TLE229 - TLE230</u> | <u>TLE231 - PRW115</u> |                        |
| R = 5729.58'        |                          |                        |                        |                        |
| PC STA = 209+34.11  | L = 0.13'                | L = 128.58'            | L = 128.68'            |                        |
| PT STA = 213+29.94  | LCH = 0.13'              | LCH = 128.58'          | LCH = 128.68'          |                        |

| R/W COURSE TABLE     |               |          |
|----------------------|---------------|----------|
| PNT - PNT<br>NO. NO. | BEARING       | DISTANCE |
| 500 - PNT'A'         | N00° 23' 05"W | 1327.27' |
| PNT'A' - PNT'B'      | S87° 55' 42"W | 9.29'    |
| PNT'B' - PRW100      | S87° 55' 42"W | 50.30'   |
| PRW100 - TLE221      | CURVE DATA    |          |
| TLE221 - TLE222      | N87° 47' 33"W | 10.00'   |
| TLE222 - TLE223      | CURVE DATA    |          |
| TLE223 - PRW100      | S87°55'42"W   | 10.06'   |
| TLE223 - TLE224      | CURVE DATA    |          |
| TLE224 - TLE225      | N04° 15' 25"E | 420.06'  |
| TLE225 - TLE226      | S85° 44' 35"E | 10.00'   |
| TLE226 - PRW101      | S04° 15' 25"W | 420.06'  |
| PRW101 - PRW100      | CURVE DATA    |          |

| R/W COURSE TABLE     |               |          |
|----------------------|---------------|----------|
| PNT - PNT<br>NO. NO. | BEARING       | DISTANCE |
| PNT'A' - PRW115      | S89° 52' 39"E | 40.87'   |
| PRW115 - TLE228      | S89° 52' 39"E | 10.03'   |
| PRW115 - PRW116      | CURVE DATA    |          |
| PRW116 - PRW114      | N04° 15' 25"E | 70.06'   |
| PRW114 - TLE227      | S85° 44' 35"E | 10.00'   |
| TLE227 - TLE228      | S04° 15' 25"W | 69.47'   |
| TLE228 - TLE229      | S04° 15' 25"W | 0.59'    |
| TLE229 - TLE230      | CURVE DATA    |          |
| TLE230 - TLE231      | N87° 02' 33"W | 10.00'   |
| TLE231 - PRW115      | CURVE DATA    |          |
| PRW114 - PRW111      | N04° 15' 25"E | 150.00'  |
| PRW111 - PRW112      | S85° 44' 35"E | 15.00'   |
| PRW112 - PRW113      | S04° 15' 25"W | 150.00'  |
| PRW113 - PRW114      | N85° 44' 35"W | 15.00'   |

| R/W COURSE TABLE     |               |          |
|----------------------|---------------|----------|
| PNT - PNT<br>NO. NO. | BEARING       | DISTANCE |
| PRW116 - PRW111      | N04° 15' 25"E | 220.06'  |
| PRW111 - TLE232      | N04° 15' 25"E | 400.00'  |
| TLE232 - TLE233      | S85° 44' 35"E | 10.00'   |
| TLE233 - TLE234      | S04° 15' 25"W | 400.00'  |
| TLE234 - PRW111      | N85° 44' 35"W | 10.00'   |



| POINT TABLE |            |            |
|-------------|------------|------------|
| R/W PNT     | Y          | X          |
| PRW100      | 425660.454 | 631945.921 |
| PRW101      | 425670.075 | 631946.629 |
| PRW111      | 425882.102 | 632062.688 |
| PRW112      | 425880.988 | 632077.646 |
| PRW113      | 425731.402 | 632066.512 |
| PRW114      | 425732.516 | 632051.553 |
| PRW115      | 425662.521 | 632046.343 |
| PRW116      | 425662.652 | 632046.353 |
| TLE221      | 425463.683 | 631934.973 |
| TLE222      | 425464.069 | 631924.981 |

| POINT TABLE |            |            |
|-------------|------------|------------|
| R/W PNT     | Y          | X          |
| TLE223      | 425660.091 | 631935.868 |
| TLE224      | 425670.818 | 631936.656 |
| TLE225      | 426089.715 | 631967.837 |
| TLE226      | 426088.973 | 631977.810 |
| TLE227      | 425731.773 | 632061.526 |
| TLE228      | 425662.500 | 632056.369 |
| TLE229      | 425661.910 | 632056.325 |
| TLE230      | 425533.585 | 632048.235 |
| TLE231      | 425534.101 | 632038.249 |
| TLE234      | 425881.360 | 632072.660 |

## EXISTING UTILITY EASEMENTS TO BE RELEASED

80 DAIRYLAND POWER COOPERATIVE  
PARCEL 1: DOC. 649654  
PARCEL 2: V. 181 P. 344 DOC. 267631, DOC. 599756  
PARCEL 3: V. 181 P. 344 DOC. 267631

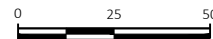
NOTE:  
CTH M RIGHT-OF-WAY ESTABLISHED FROM PROJECT  
S0684(3) AND ASSOCIATED DEEDS.

| REVISION DATE |  |  |  |
|---------------|--|--|--|
|               |  |  |  |
|               |  |  |  |
|               |  |  |  |

DATE 4/3/2024

GRID FACTOR

SCALE, FEET



HWY: CTH M

COUNTY:CLARK

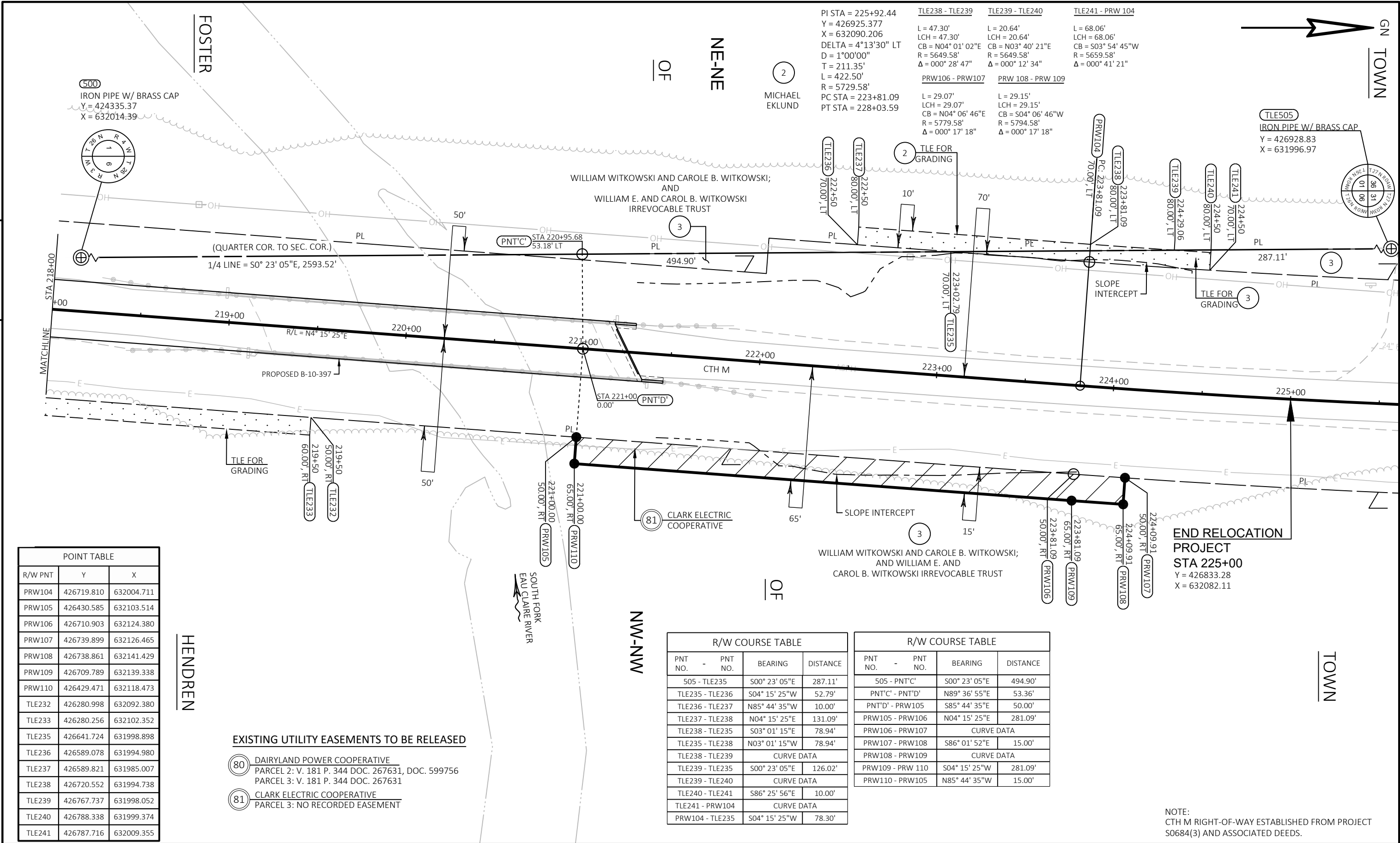
STATE R/W PROJECT NUMBER: 7839-03-01

CONSTRUCTION PROJECT NUMBER: 7839-03-71

PLAT SHEET 4.03

PS&amp;E SHEET

# E



| POINT TABLE |            |            |
|-------------|------------|------------|
| R/W PNT     | Y          | X          |
| PRW104      | 426719.810 | 632004.711 |
| PRW105      | 426430.585 | 632103.514 |
| PRW106      | 426710.903 | 632124.380 |
| PRW107      | 426739.899 | 632126.465 |
| PRW108      | 426738.861 | 632141.429 |
| PRW109      | 426709.789 | 632139.338 |
| PRW110      | 426429.471 | 632118.473 |
| TLE232      | 426280.998 | 632092.380 |
| TLE233      | 426280.256 | 632102.352 |
| TLE235      | 426641.724 | 631998.898 |
| TLE236      | 426589.078 | 631994.980 |
| TLE237      | 426589.821 | 631985.007 |
| TLE238      | 426720.552 | 631994.738 |
| TLE239      | 426767.737 | 631998.052 |
| TLE240      | 426788.338 | 631999.374 |
| TLE241      | 426787.716 | 632009.355 |

EXISTING UTILITY EASEMENTS TO BE RELEASED

- 80

DAIRYLAND POWER COOPERATIVE  
PARCEL 2: V. 181 P. 344 DOC. 267631, DOC. 599756  
PARCEL 3: V. 181 P. 344 DOC. 267631
- 81

CLARK ELECTRIC COOPERATIVE  
PARCEL 3: NO RECORDED EASEMENT

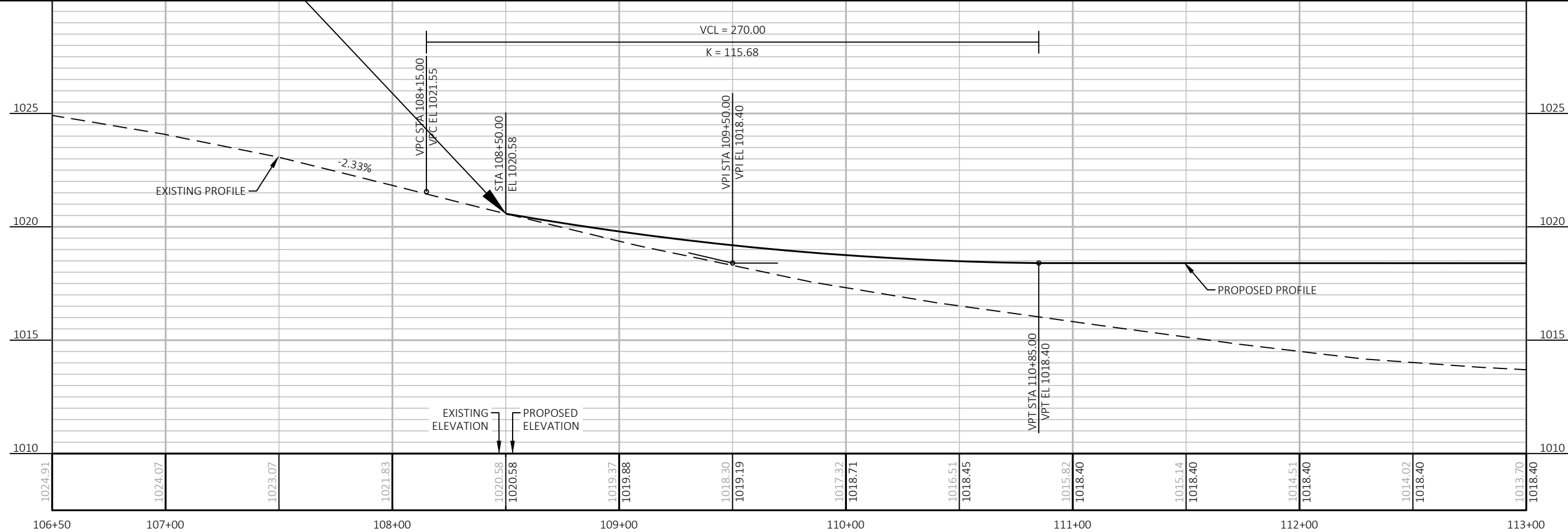
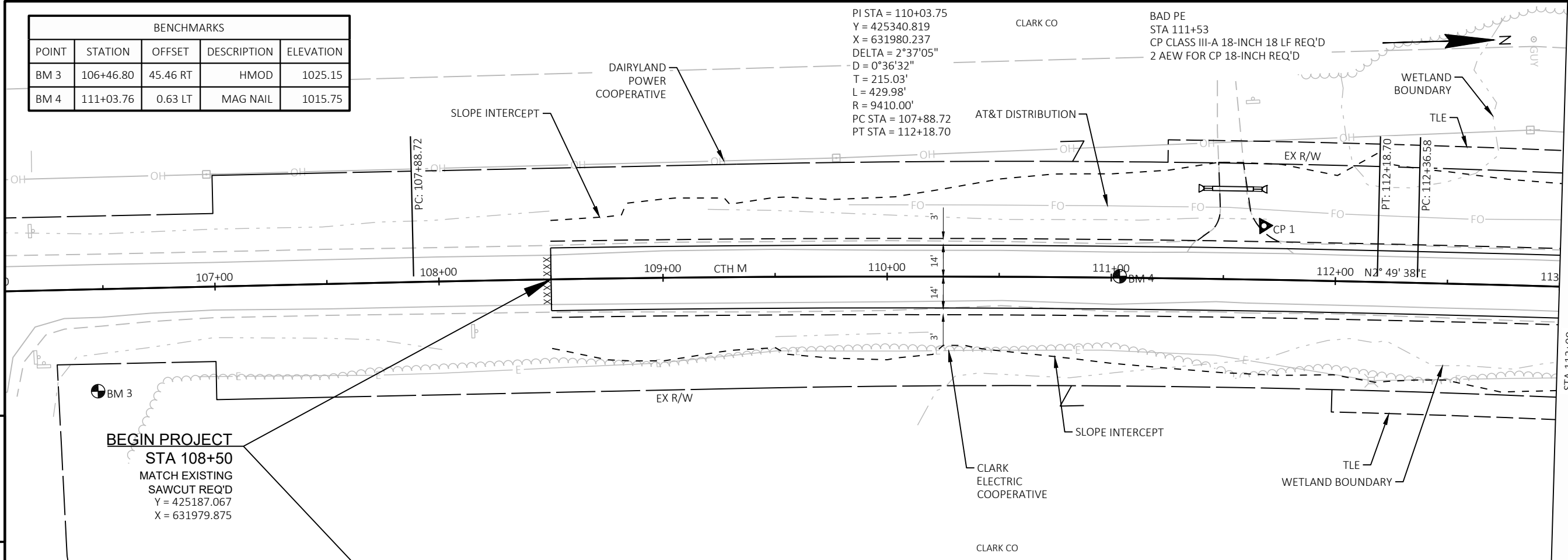
| R/W COURSE TABLE |         |               |          |
|------------------|---------|---------------|----------|
| PNT NO.          | PNT NO. | BEARING       | DISTANCE |
| 505              | TLE235  | S00° 23' 05"E | 287.11'  |
| TLE235           | TLE236  | S04° 15' 25"W | 52.79'   |
| TLE236           | TLE237  | N85° 44' 35"W | 10.00'   |
| TLE237           | TLE238  | N04° 15' 25"E | 131.09'  |
| TLE238           | TLE235  | S03° 01' 15"E | 78.94'   |
| TLE235           | TLE238  | N03° 01' 15"W | 78.94'   |
| TLE238           | TLE239  | CURVE DATA    |          |
| TLE239           | TLE235  | S00° 23' 05"E | 126.02'  |
| TLE239           | TLE240  | CURVE DATA    |          |
| TLE240           | TLE241  | S86° 25' 56"E | 10.00'   |
| TLE241           | PRW104  | CURVE DATA    |          |
| PRW104           | TLE235  | S04° 15' 25"W | 78.30'   |

| R/W COURSE TABLE |         |               |          |
|------------------|---------|---------------|----------|
| PNT NO.          | PNT NO. | BEARING       | DISTANCE |
| 505              | PNT'C   | S00° 23' 05"E | 494.90'  |
| PNT'C            | PNT'D   | N89° 36' 55"E | 53.36'   |
| PNT'D            | PRW105  | S85° 44' 35"E | 50.00'   |
| PRW105           | PRW106  | N04° 15' 25"E | 281.09'  |
| PRW106           | PRW107  | CURVE DATA    |          |
| PRW107           | PRW108  | S86° 01' 52"E | 15.00'   |
| PRW108           | PRW109  | CURVE DATA    |          |
| PRW109           | PRW 110 | S04° 15' 25"W | 281.09'  |
| PRW110           | PRW105  | N85° 44' 35"W | 15.00'   |

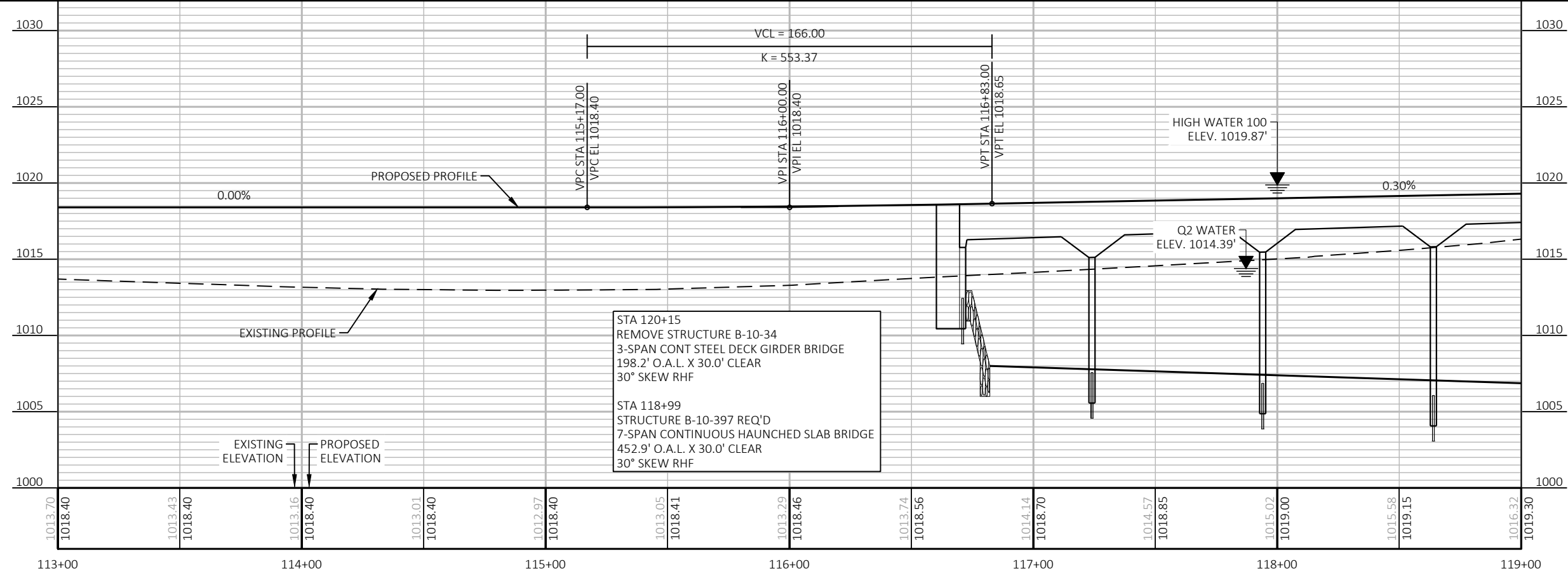
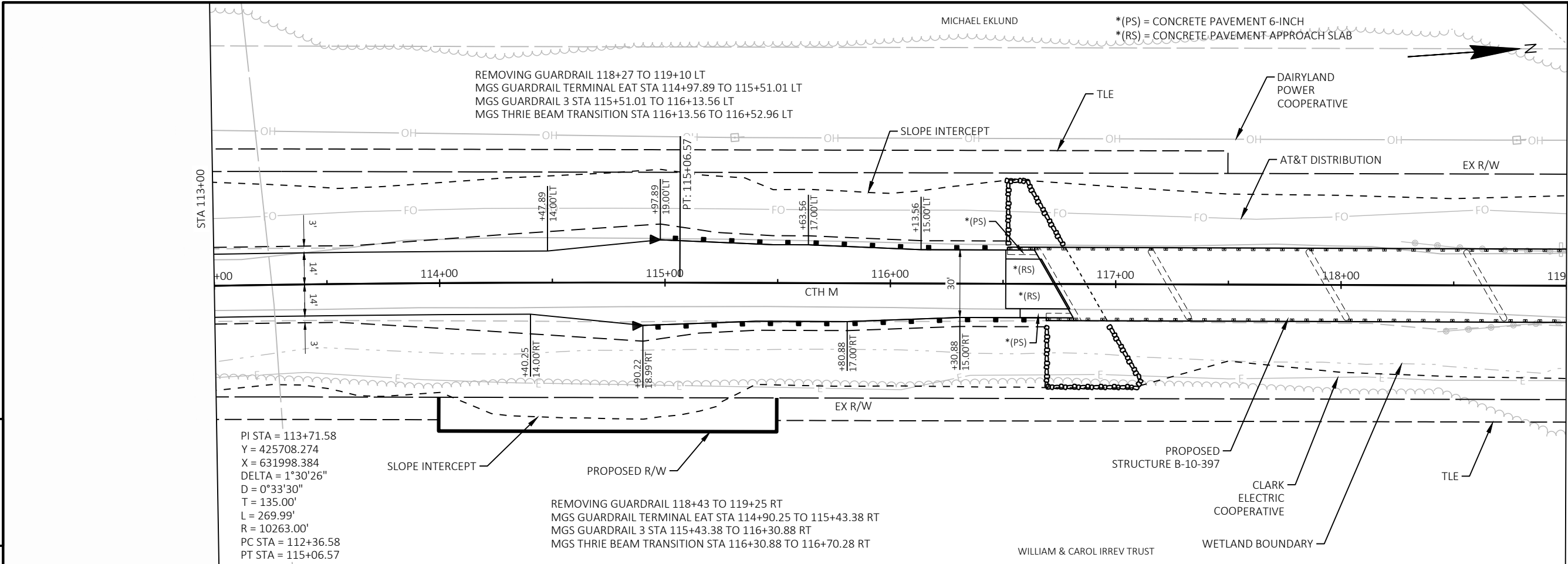
NOTE:  
CTH M RIGHT-OF-WAY ESTABLISHED FROM PROJECT  
S0684(3) AND ASSOCIATED DEEDS.

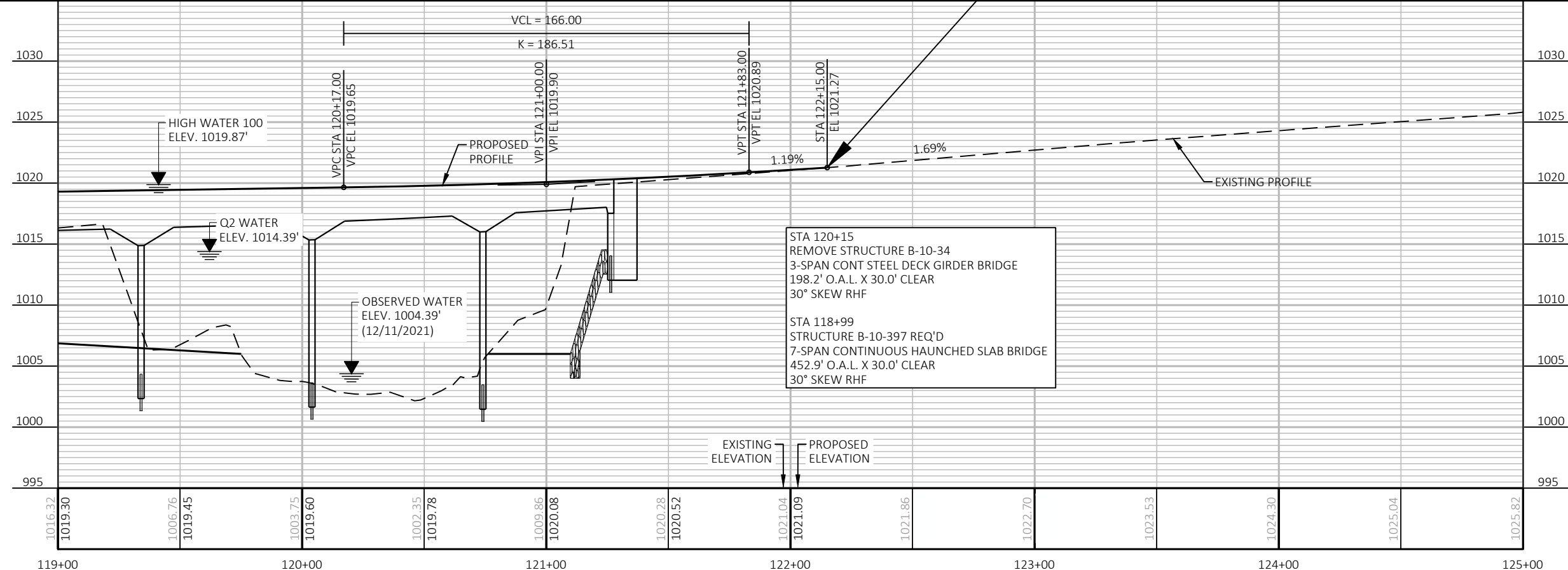
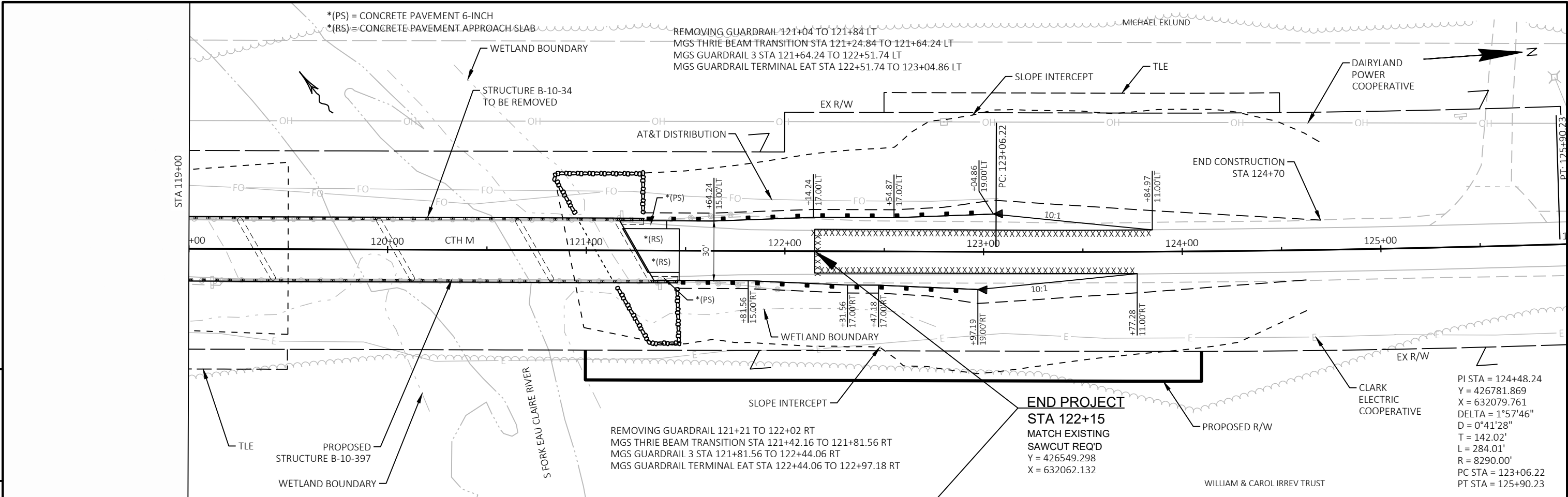
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|---------------|--|--|--|--|---------------|-------------|--------------|-----------------------------------------|-----------------|---|
| REVISION DATE |  |  |  |  | DATE 4/3/2024 | SCALE, FEET | HWY: CTH M   | STATE R/W PROJECT NUMBER: 7839-03-01    | PLAT SHEET 4.04 |   |
|               |  |  |  |  |               | 0 25 50     |              |                                         |                 |   |
|               |  |  |  |  | GRID FACTOR   |             | COUNTY:CLARK | CONSTRUCTION PROJECT NUMBER: 7839-03-71 | PS&E SHEET      | E |

| BENCHMARKS |           |          |             |           |
|------------|-----------|----------|-------------|-----------|
| POINT      | STATION   | OFFSET   | DESCRIPTION | ELEVATION |
| BM 3       | 106+46.80 | 45.46 RT | HMOD        | 1025.15   |
| BM 4       | 111+03.76 | 0.63 LT  | MAG NAIL    | 1015.75   |



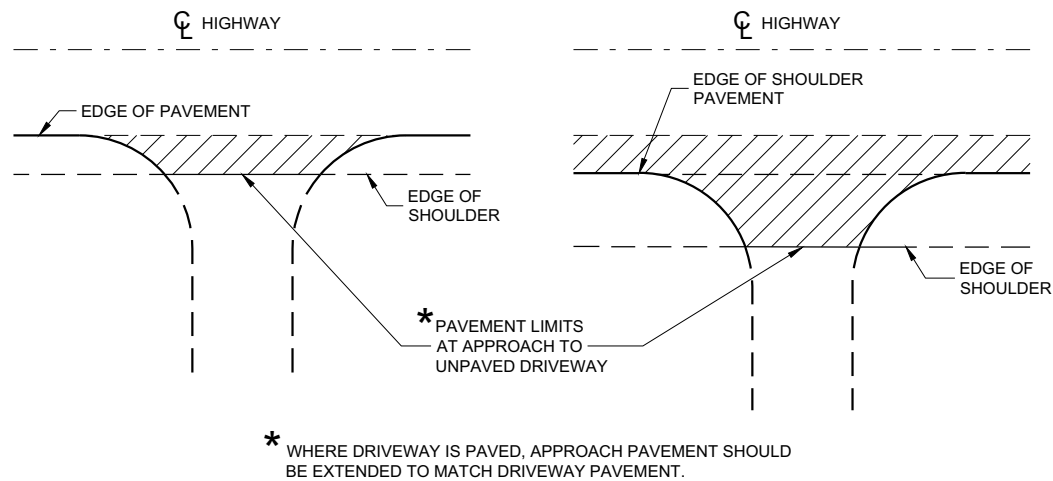
|                        |            |               |                         |       |   |
|------------------------|------------|---------------|-------------------------|-------|---|
| PROJECT NO: 7839-03-71 | HWY: CTH M | COUNTY: CLARK | PLAN AND PROFILE: CTH M | SHEET | E |
|------------------------|------------|---------------|-------------------------|-------|---|





Standard Detail Drawing List

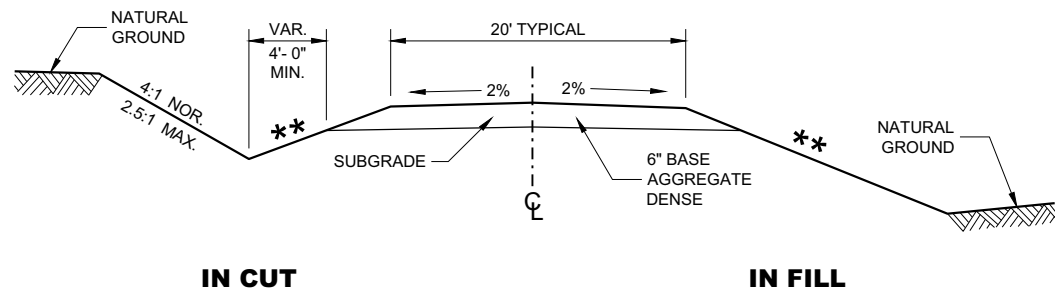
|           |                                                          |
|-----------|----------------------------------------------------------|
| 08D21-01  | DRIVEWAYS WITHOUT CURB & GUTTER                          |
| 08E09-06  | SILT FENCE                                               |
| 08E11-02  | TURBIDITY BARRIER                                        |
| 08F01-11  | APRON ENDWALLS FOR CULVERT PIPE                          |
| 08F04-08  | JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL  |
| 12A03-10  | NAME PLATE (STRUCTURES)                                  |
| 13B02-09A | CONCRETE PAVEMENT APPROACH SLAB                          |
| 14B42-07A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                 |
| 14B42-07B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                 |
| 14B42-07C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                 |
| 14B42-07D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                 |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-05A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05E | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05K | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-05L | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 15C02-09A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES               |
| 15C02-09B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES                |
| 15C06-12  | SIGNING & MARKING FOR TWO LANE BRIDGES                   |
| 15C08-23A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS                 |



**PLAN VIEW**  
(UNPAVED SHOULDER ON HIGHWAY)

**PLAN VIEW**  
(PAVED SHOULDER ON HIGHWAY)

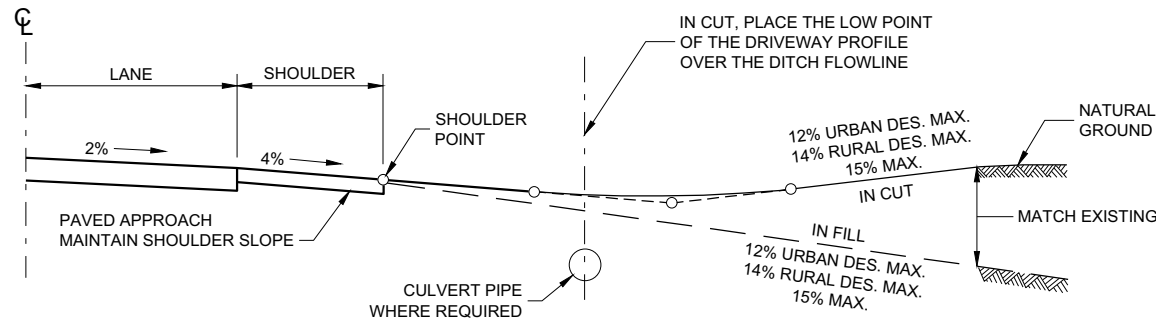
**RURAL DRIVEWAY INTERSECTION DETAIL  
(NO CURB AND GUTTER OR SIDEWALK)**



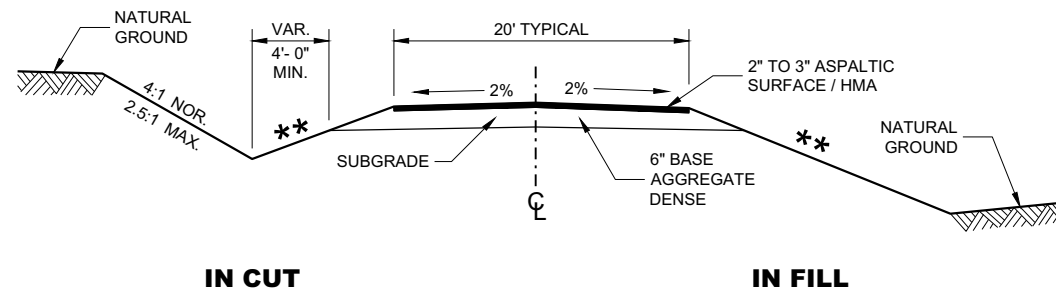
**TYPICAL CROSS SECTION FOR  
PRIVATE DRIVE OR FIELD ENTRANCE  
AGGREGATE SURFACE**

**\*\*** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

| POSTED SPEED<br>MPH | MAX.<br>SLOPE |
|---------------------|---------------|
| <35                 | 4:1           |
| ≥ 35 TO < 60        | 6:1           |
| ≥60                 | 10:1          |



**TYPICAL DRIVEWAY PROFILES**



**TYPICAL CROSS SECTION FOR  
PRIVATE DRIVE OR FIELD ENTRANCE  
ASPHALTIC SURFACE**

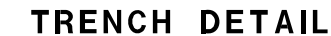
**DRIVEWAYS WITHOUT  
CURB AND GUTTER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

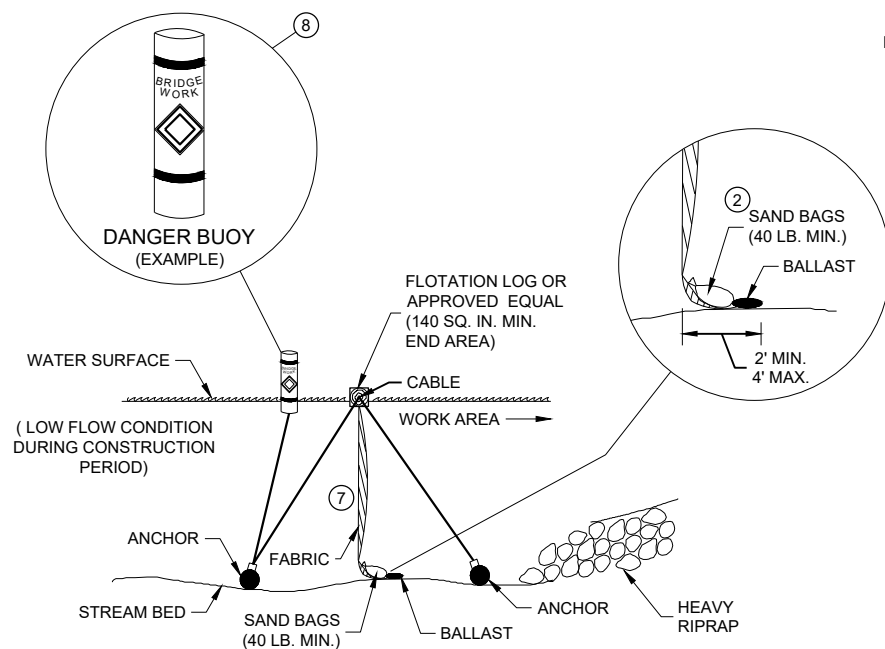
APPROVED  
December 2017  
DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

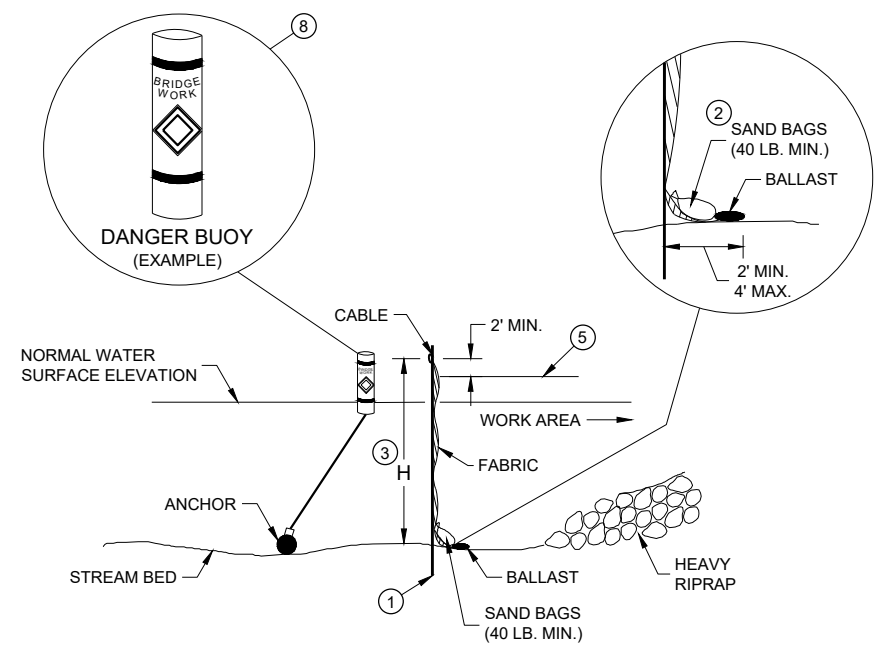


|                                                            |                                                                 |
|------------------------------------------------------------|-----------------------------------------------------------------|
| <b>SILT FENCE</b>                                          |                                                                 |
| <b>STATE OF WISCONSIN<br/>DEPARTMENT OF TRANSPORTATION</b> |                                                                 |
| <b>APPROVED</b><br><u>4-29-05</u><br>DATE                  | <u>/S/ Beth Cannestra</u><br>CHIEF ROADWAY DEVELOPMENT ENGINEER |



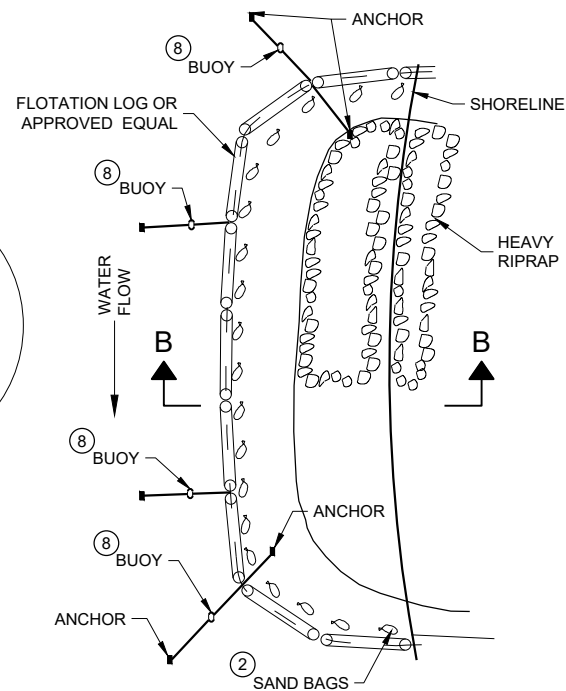
SECTION B - B

### TURBIDITY BARRIER - FLOAT ALTERNATIVE CAUTION - SEE NOTE 6

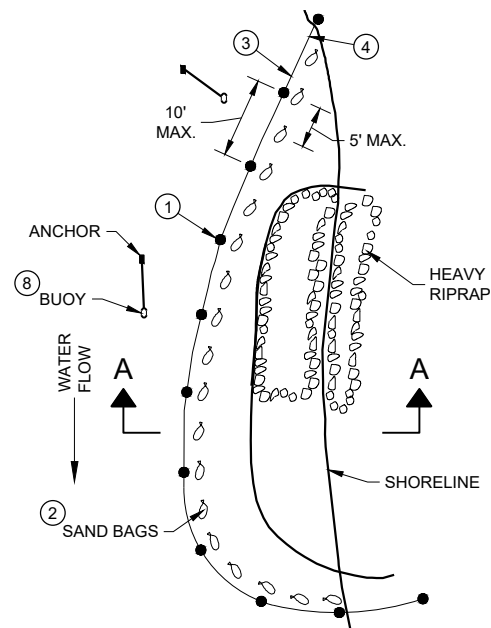


SECTION A - A

### TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW



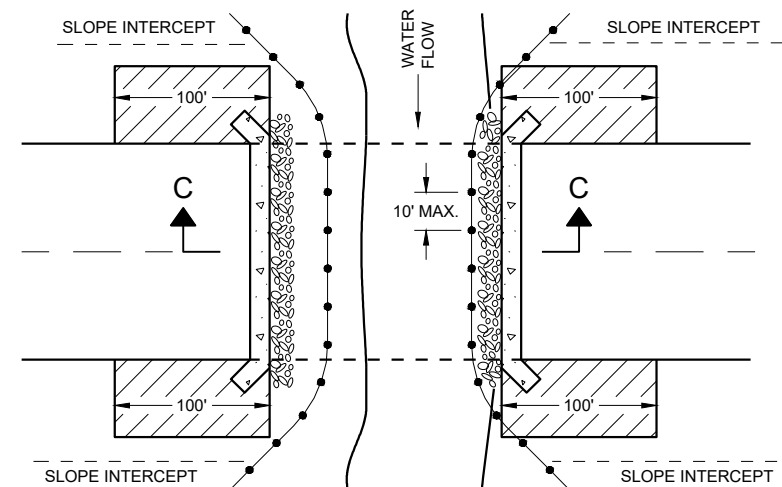
PLAN VIEW

## GENERAL NOTES

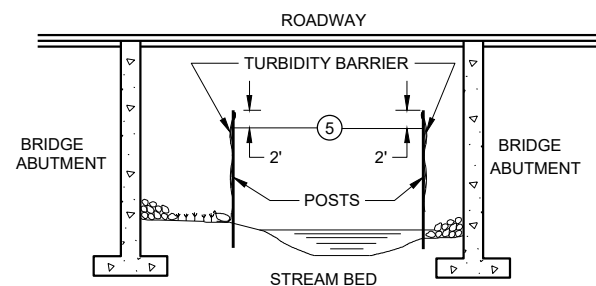
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

### TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

## TURBIDITY BARRIER

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/4/02

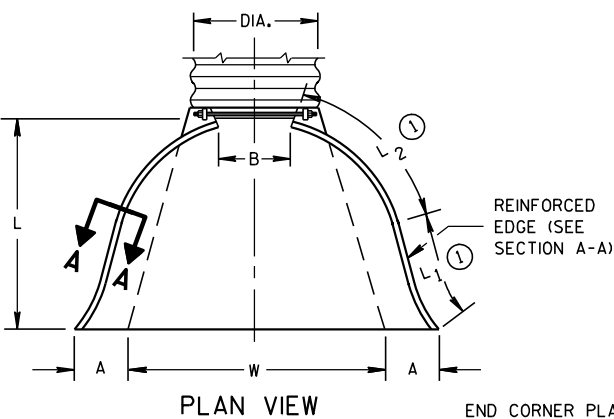
DATE

FHWA

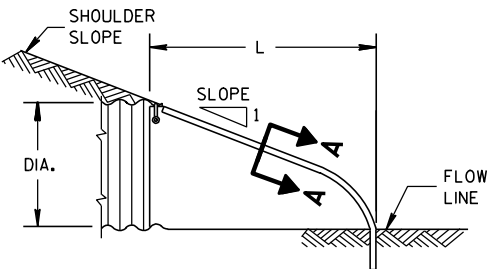
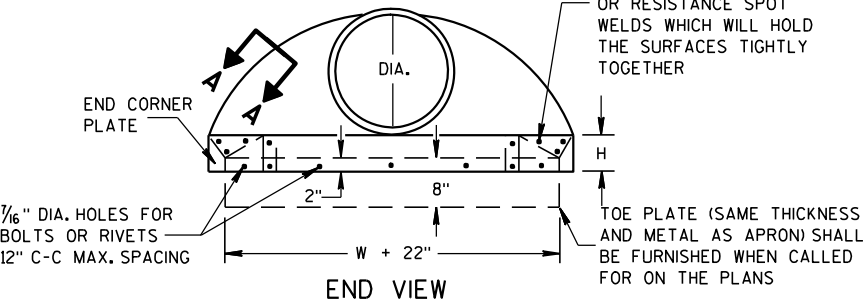
/S/ Beth Cannestra  
CHIEF ROADWAY DEVELOPMENT  
ENGINEER

| METAL APRON ENDWALLS |                         |       |                     |             |            |                |         |         |            |                  |  |       |
|----------------------|-------------------------|-------|---------------------|-------------|------------|----------------|---------|---------|------------|------------------|--|-------|
| PIPE DIA.<br>(IN.)   | MIN. THICK.<br>(Inches) |       | DIMENSIONS (Inches) |             |            |                |         |         |            | APPROX.<br>SLOPE |  | BODY  |
|                      | STEEL                   | ALUM. | A<br>(±1")          | B<br>(MAX.) | H<br>(±1") | L<br>(±1 1/2") | L1<br>① | L2<br>① | W<br>(±2") |                  |  |       |
| 12                   | .064                    | .060  | 6                   | 6           | 6          | 21             | 12      | 17 1/2  | 24         | 2 1/2 to 1       |  | 1 Pc. |
| 15                   | .064                    | .060  | 7                   | 8           | 6          | 26             | 14      | 21 3/4  | 30         | 2 1/2 to 1       |  | 1 Pc. |
| 18                   | .064                    | .060  | 8                   | 10          | 6          | 31             | 15      | 28 1/4  | 36         | 2 1/2 to 1       |  | 1 Pc. |
| 21                   | .064                    | .060  | 9                   | 12          | 6          | 36             | 18      | 29 5/8  | 42         | 2 1/2 to 1       |  | 1 Pc. |
| 24                   | .064                    | .075  | 10                  | 13          | 6          | 41             | 18      | 37 1/4  | 48         | 2 1/2 to 1       |  | 1 Pc. |
| 30                   | .079                    | .075  | 12                  | 16          | 8          | 51             | 18      | 52 1/4  | 60         | 2 1/2 to 1       |  | 1 Pc. |
| 36                   | .079                    | .105  | 14                  | 19          | 9          | 60             | 24      | 59 3/4  | 72         | 2 1/2 to 1       |  | 2 Pc. |
| 42                   | .109                    | .105  | 16                  | 22          | 11         | 69             | 24      | 75 5/8  | 84         | 2 1/2 to 1       |  | 2 Pc. |
| 48                   | .109                    | .105  | 18                  | 27          | 12         | 78             | 24      | 81      | 90         | 2 1/4 to 1       |  | 3 Pc. |
| 54                   | .109                    | .105  | 18                  | 30          | 12         | 84             | 30      | 85 1/2  | 102        | 2 1/4 to 1       |  | 3 Pc. |
| 60                   | .109x                   | .105x | 18                  | 33          | 12         | 87             | —       | —       | 114        | 2 to 1           |  | 3 Pc. |
| 66                   | .109x                   | .105x | 18                  | 36          | 12         | 87             | —       | —       | 120        | 2 to 1           |  | 3 Pc. |
| 72                   | .109x                   | .105x | 18                  | 39          | 12         | 87             | —       | —       | 126        | 2 to 1           |  | 3 Pc. |
| 78                   | .109x                   | .105x | 18                  | 42          | 12         | 87             | —       | —       | 132        | 1 1/2 to 1       |  | 3 Pc. |
| 84                   | .109x                   | .105x | 18                  | 45          | 12         | 87             | —       | —       | 138        | 1 1/2 to 1       |  | 3 Pc. |
| 90                   | .109x                   | .105x | 18                  | 37          | 12         | 87             | —       | —       | 144        | 1 1/2 to 1       |  | 3 Pc. |
| 96                   | .109x                   | .105x | 18                  | 35          | 12         | 87             | —       | —       | 150        | 1 1/2 to 1       |  | 3 Pc. |

\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



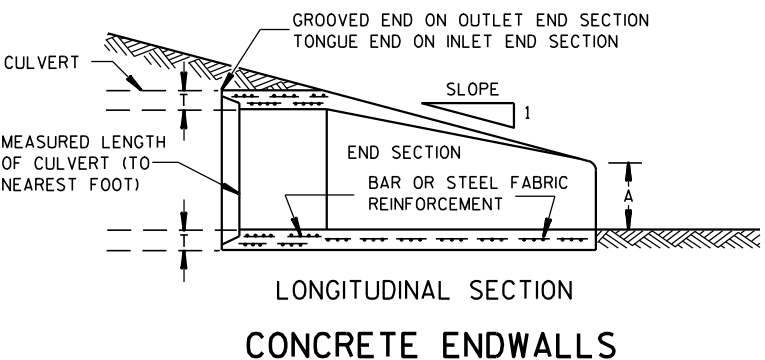
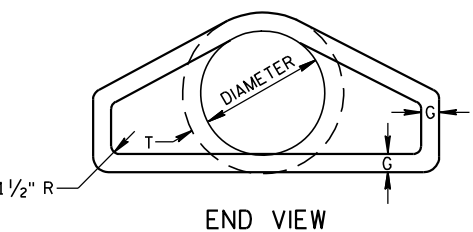
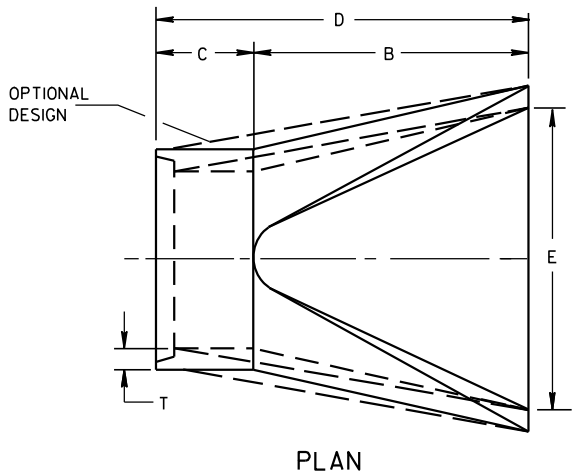
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



SIDE ELEVATION  
METAL ENDWALLS

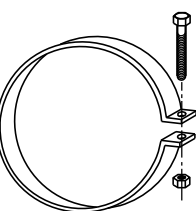
| REINFORCED CONCRETE APRON ENDWALLS |                     |        |        |           |            |     |       |                  |  |  |  |  |
|------------------------------------|---------------------|--------|--------|-----------|------------|-----|-------|------------------|--|--|--|--|
| PIPE DIA.<br>(IN.)                 | DIMENSIONS (Inches) |        |        |           |            |     |       | APPROX.<br>SLOPE |  |  |  |  |
|                                    | T                   | A      | B      | C         | D          | E   | G     |                  |  |  |  |  |
| 12                                 | 2                   | 4      | 24     | 48 7/8    | 72 7/8     | 24  | 2     | 3 to 1           |  |  |  |  |
| 15                                 | 2 1/4               | 6      | 27     | 46        | 73         | 30  | 2 1/4 | 3 to 1           |  |  |  |  |
| 18                                 | 2 1/2               | 9      | 27     | 46        | 73         | 36  | 2 1/2 | 3 to 1           |  |  |  |  |
| 21                                 | 2 3/4               | 9      | 36     | 37 1/2    | 73 1/2     | 42  | 2 3/4 | 3 to 1           |  |  |  |  |
| 24                                 | 3                   | 9 1/2  | 43 1/2 | 30        | 73 1/2     | 48  | 3     | 3 to 1           |  |  |  |  |
| 27                                 | 3 1/4               | 10 1/2 | 49 1/2 | 24        | 73 1/2     | 54  | 3 1/4 | 3 to 1           |  |  |  |  |
| 30                                 | 3 1/2               | 12     | 54     | 19 3/4    | 73 1/2     | 60  | 3 1/2 | 3 to 1           |  |  |  |  |
| 36                                 | 4                   | 15     | 63     | 34 3/4    | 97 3/4     | 72  | 4     | 3 to 1           |  |  |  |  |
| 42                                 | 4 1/2               | 21     | 63     | 35        | 98         | 78  | 4 1/2 | 3 to 1           |  |  |  |  |
| 48                                 | 5                   | 24     | 72     | 26        | 98         | 84  | 5     | 3 to 1           |  |  |  |  |
| 54                                 | 5 1/2               | 27     | 65     | 33 1/4-35 | 98 1/4-100 | 90  | 5 1/2 | 2 2/5 to 1       |  |  |  |  |
| 60                                 | 6                   | 30-35  | 60     | 39        | 99         | 96  | 5     | 2 to 1           |  |  |  |  |
| 66                                 | 6 1/2               | 24-30  | 72-78  | 21-27     | 99         | 102 | 5 1/2 | 2 to 1           |  |  |  |  |
| 72                                 | 7                   | 24-36  | 78     | 21        | 99         | 108 | 6     | 2 to 1           |  |  |  |  |
| 78                                 | 7 1/2               | 24-36  | 78     | 21        | 99         | 114 | 6 1/2 | 2 to 1           |  |  |  |  |
| 84                                 | 8                   | 36     | 90 1/2 | 21        | 111 1/2    | 120 | 6 1/2 | 1 1/2 to 1       |  |  |  |  |
| 90                                 | 8 1/2               | 41     | 87 1/2 | 24        | 111 1/2    | 132 | 6 1/2 | 1 1/2 to 1       |  |  |  |  |

\* MINIMUM  
\*\* MAXIMUM

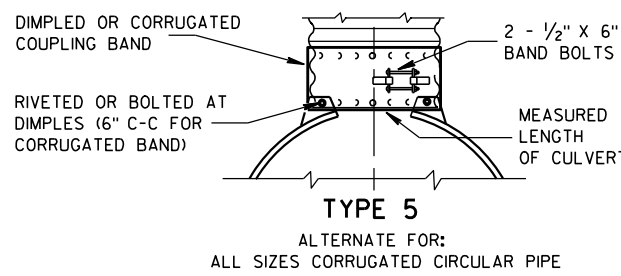
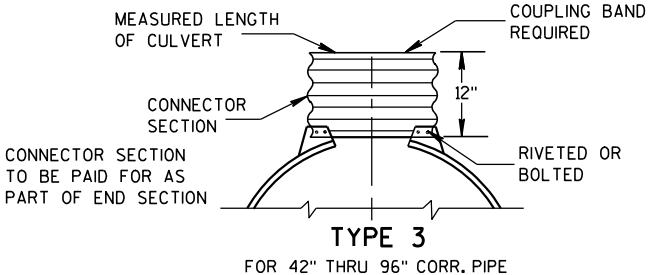
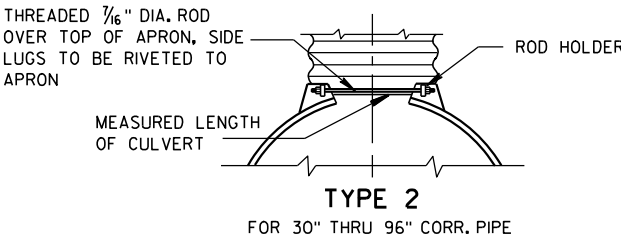
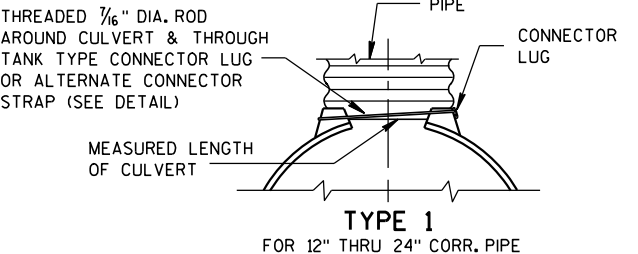


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



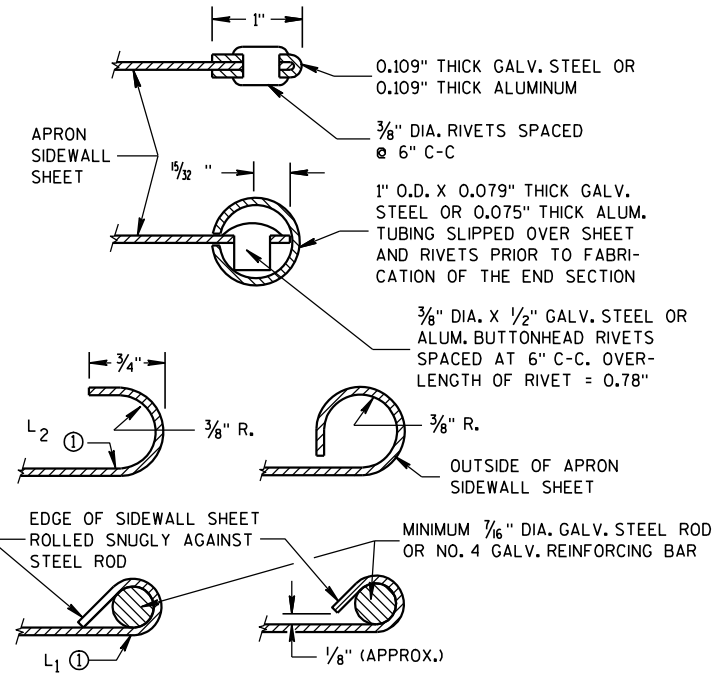
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR  
CULVERT PIPE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/30/94  
DATE  
/S/ Rory L. Rhinesmith  
CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA

### **EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)**

(CAST IN PLACE THREADED INSERT)  
**LONGITUDINAL SECTIONS**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS  
 DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY  
 USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR  
 CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK  
 NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON  
 ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN  $\frac{1}{2}$  INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

**EYE BOLT** <sup>7</sup>

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.

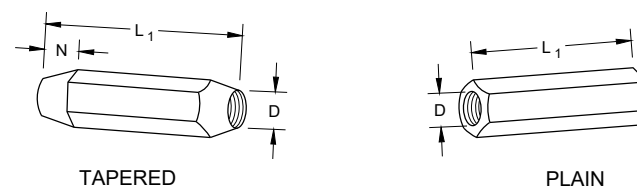
## EYE BOLT AND TIE ROD

**LONGITUDINAL SECTION**  
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

## **EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)**

| PIPE DIAMETER | TIE ROD DIAMETER | D   | L <sub>1</sub> | N     |
|---------------|------------------|-----|----------------|-------|
| 12 - 60       | 5/8              | 5/8 | 5              | 1/2   |
| 66 - 84       | 3/4              | 3/4 | 5              | 1/2   |
| 90 - 144      | 1                | 1   | 7              | 1 1/4 |

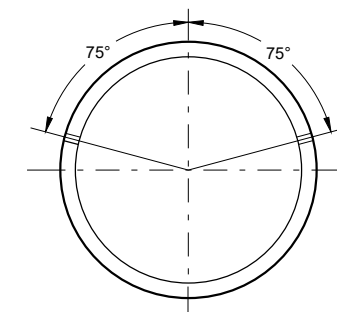
DIMENSIONS SHOWN ARE IN INCHES



## RIGHT AND LEFT THREADS

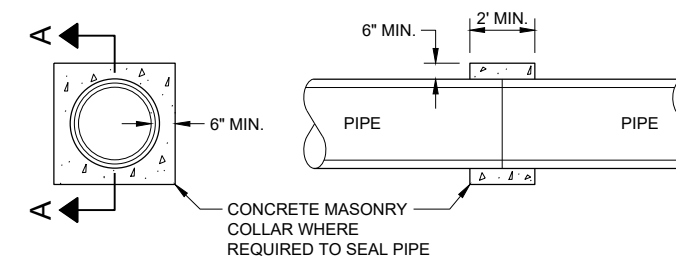
### SLEEVE NUTS

**LONGITUDINAL SECTION**  
**ADJUSTABLE TIE ROD (ALTERNATE NO. 3)**



### PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

### TRANSVERSE SECTION



**SECTION A - A**  
**CONCRETE COLLAR DETAIL**

## JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021  
DATE

/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

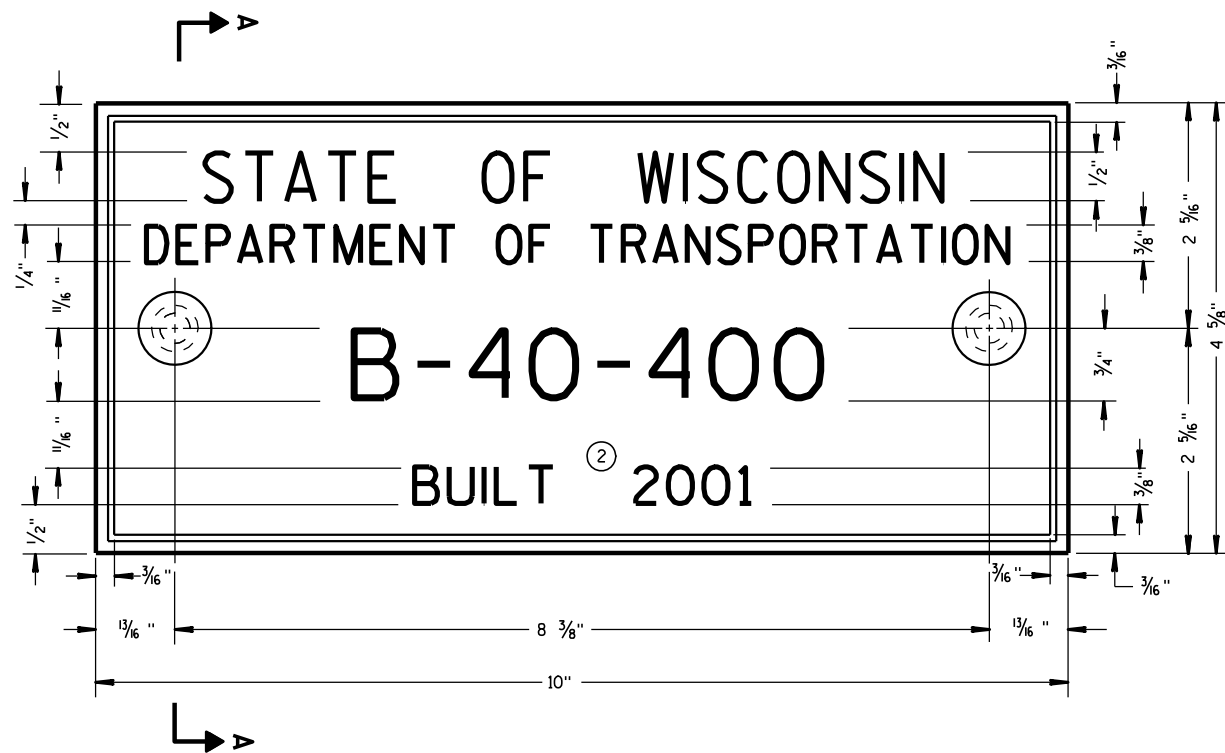
FHWA

6

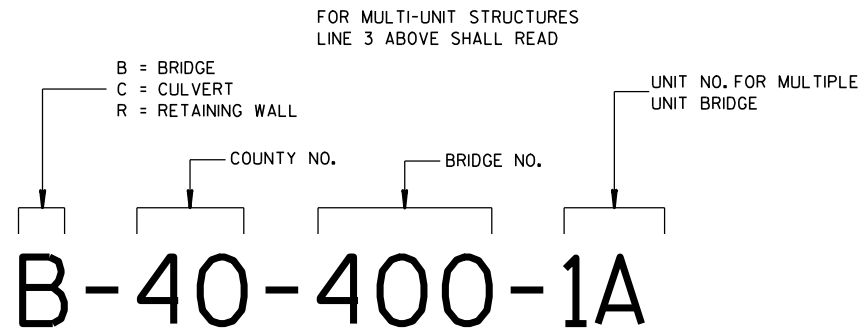
16

**SDD 08F04 - 08**

**SDD 08F04 - 08**



TYPICAL NAME PLATE  
(BRIDGES, CULVERTS, AND RETAINING WALLS)



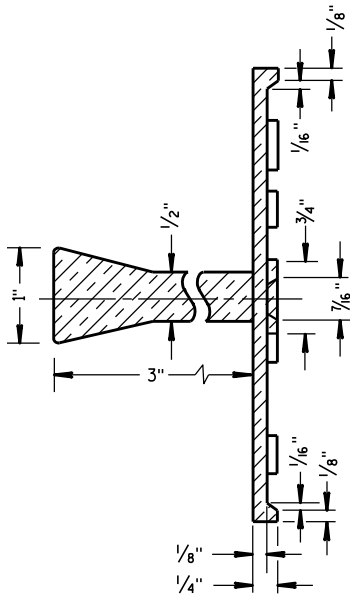
NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES

GENERAL NOTES

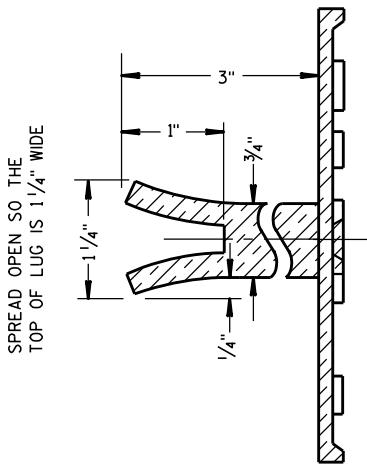
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

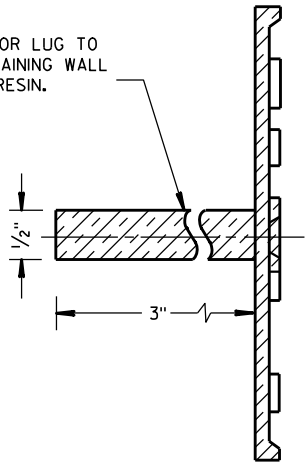


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.

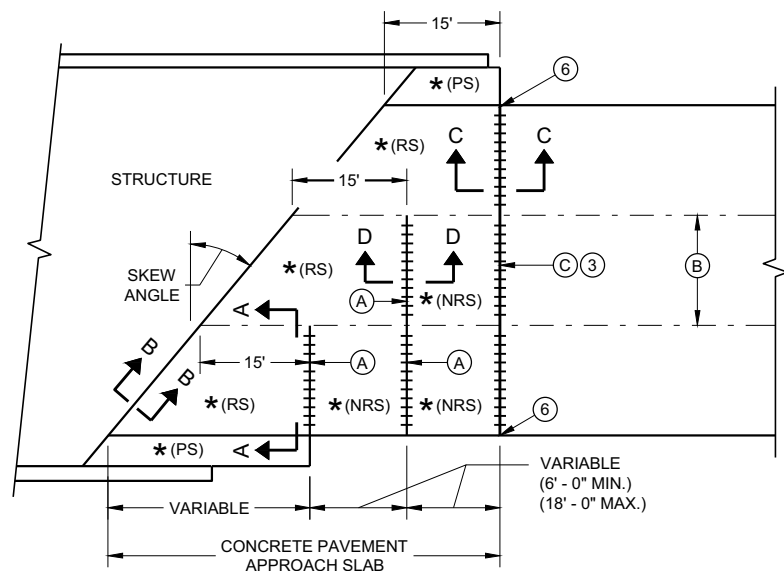


ALTERNATE LUG  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

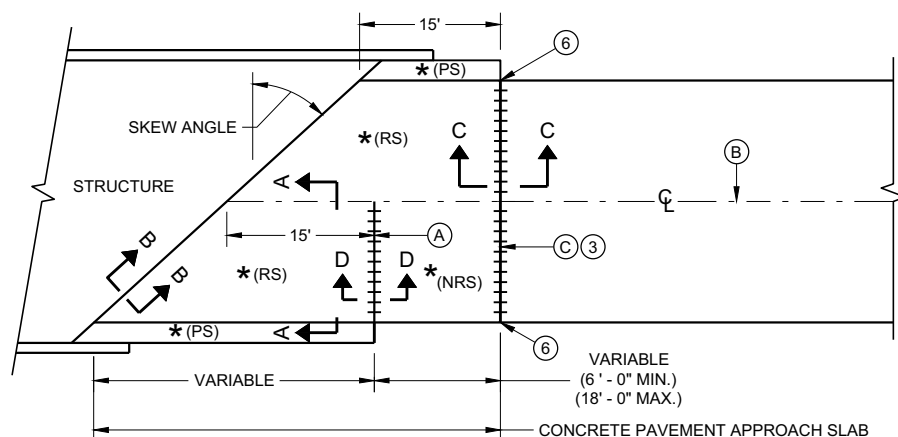
NAME PLATE  
(STRUCTURES)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

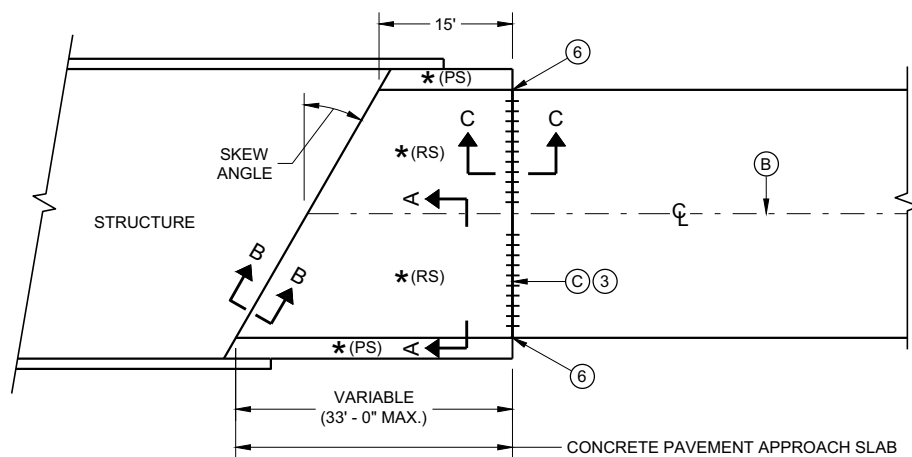
APPROVED  
3/26/10  
DATE  
/S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER  
FHWA



**SKewed APPROACH  
(PAVEMENT MORE THAN TWO LANES)**



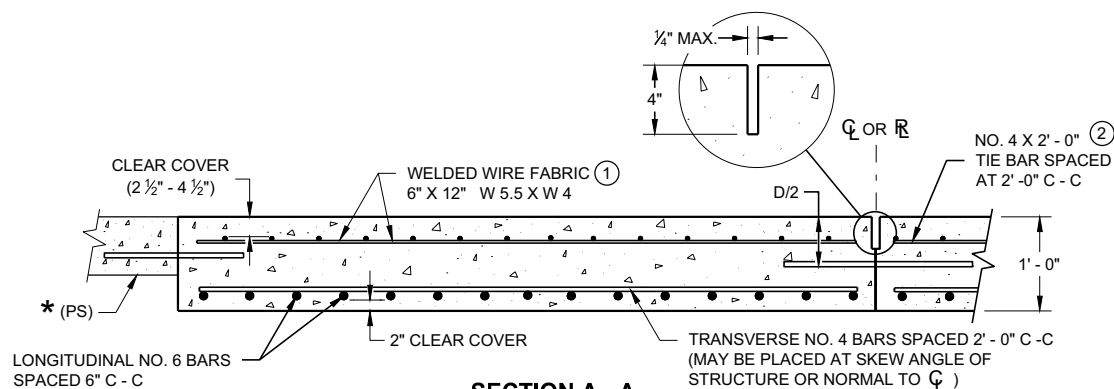
**SKews > 20°  
(PAVEMENT WIDTH ≤ 30')**



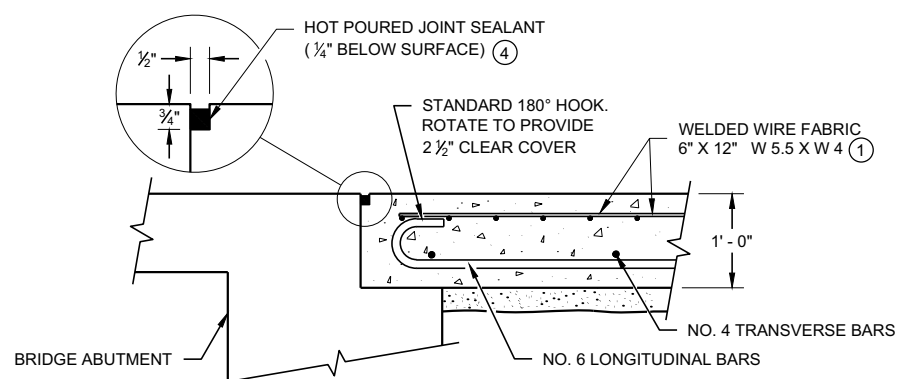
**SKews ≤ 20°  
(PAVEMENT WIDTH ≤ 30')**

**APPROACH SLAB AND ADJACENT PAVEMENT**

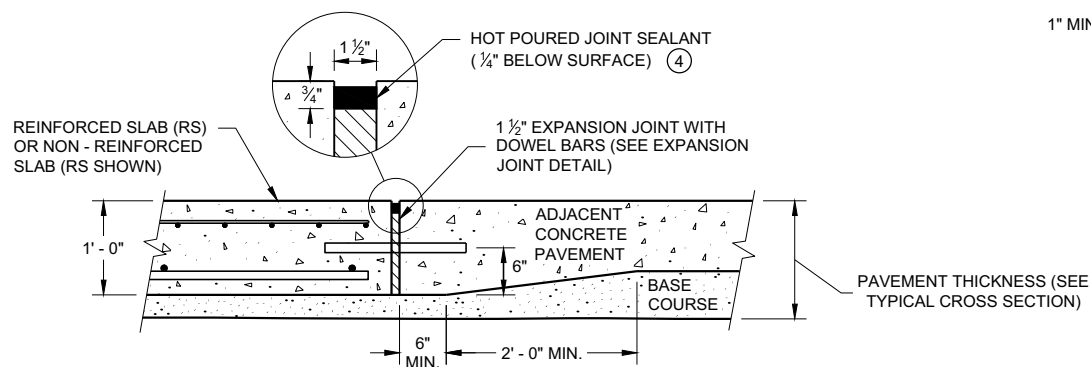
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- \* (NRS) = NON - REINFORCED CONCRETE SLAB
- \*\*\* STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A  
REINFORCEMENT POSITIONING DETAIL**



**SECTION B - B  
BEND DETAIL  
BOTTOM REINFORCEMENT**



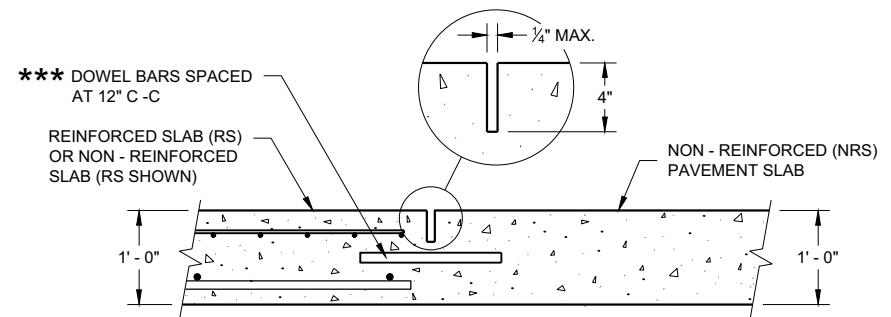
**SECTION C - C  
TRANSITION DETAIL  
APPROACH SLAB TO ADJACENT PAVEMENT**

## GENERAL NOTES

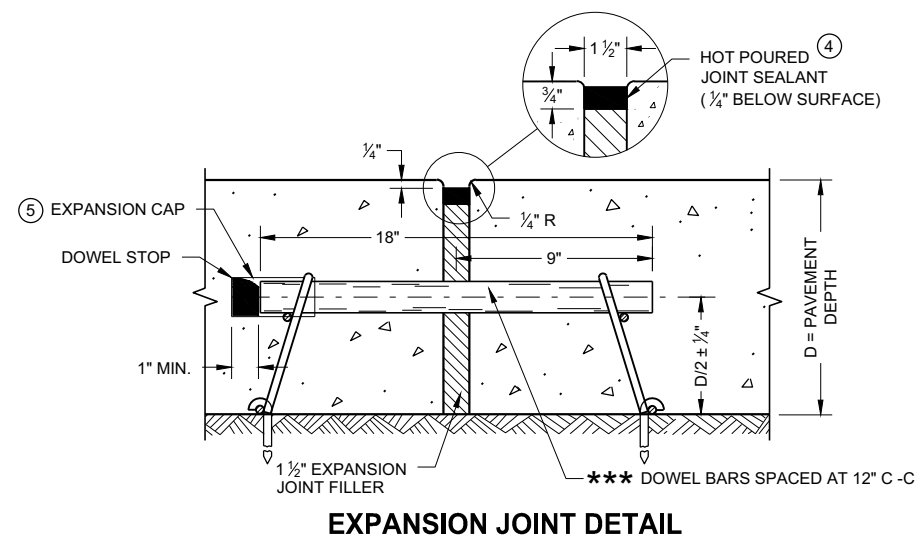
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO  $\mathcal{C}$  OR  $\mathcal{R}$ .
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\mathcal{C}$  OR  $\mathcal{R}$ .



**SECTION D - D  
CONTRACTION JOINT**



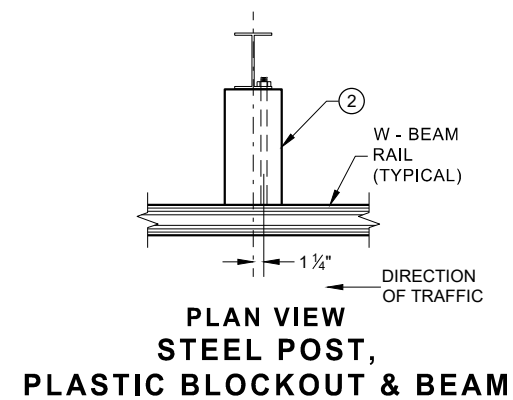
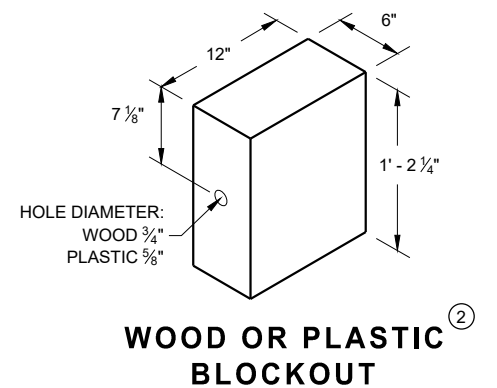
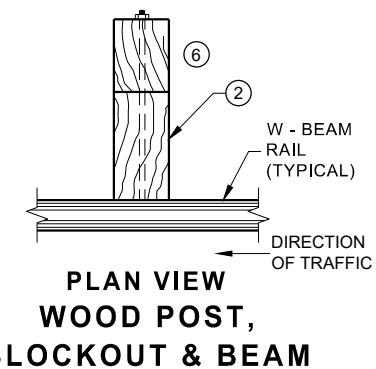
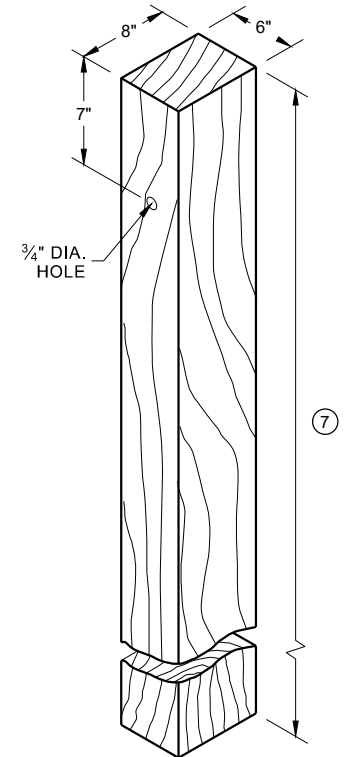
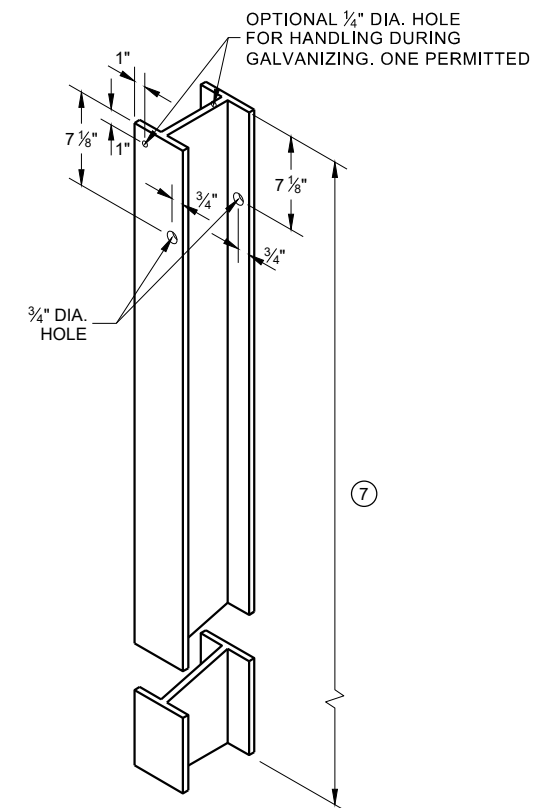
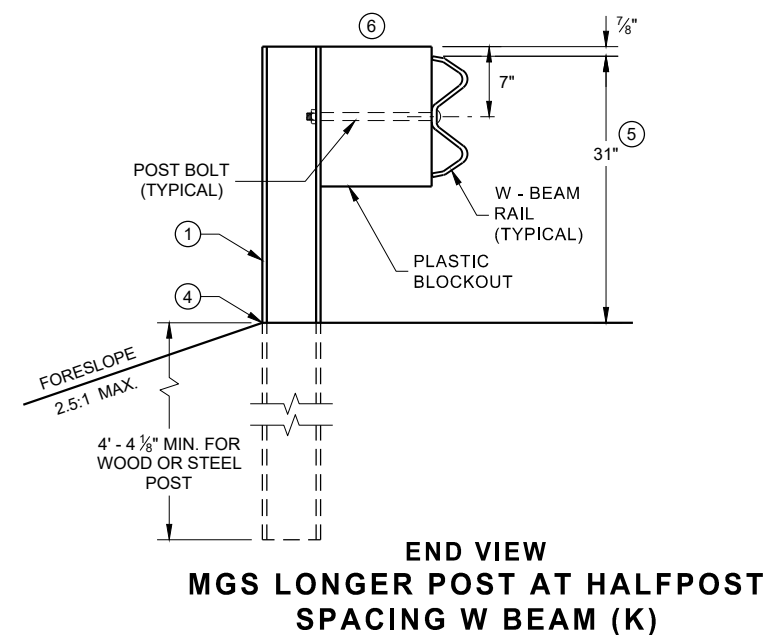
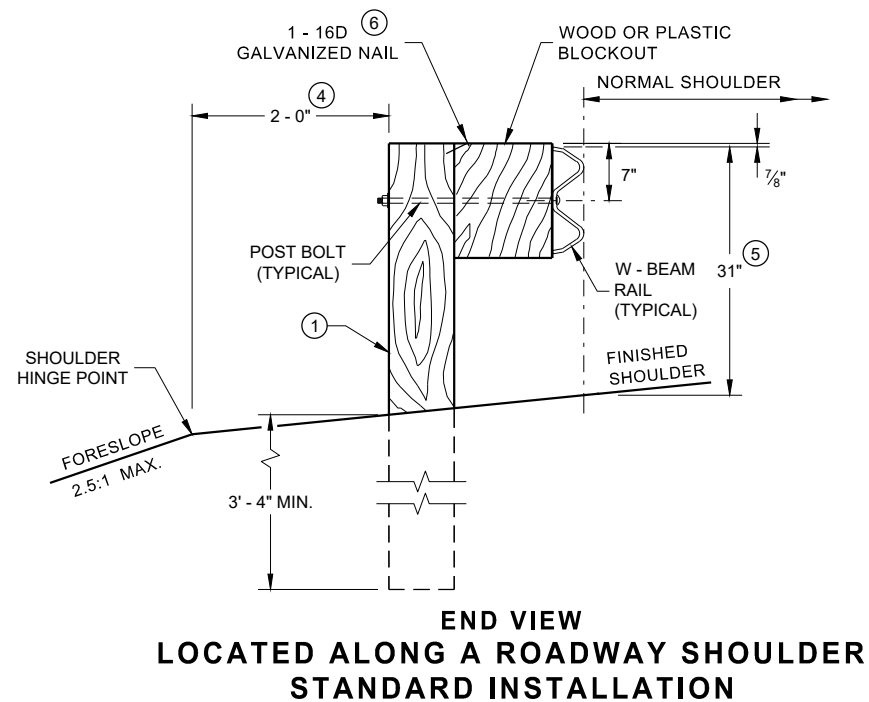
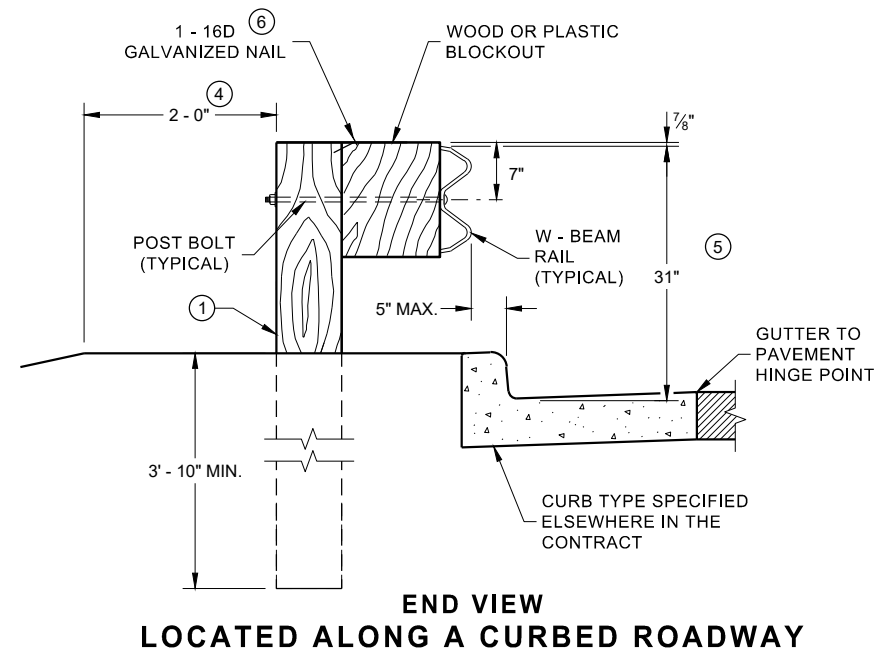
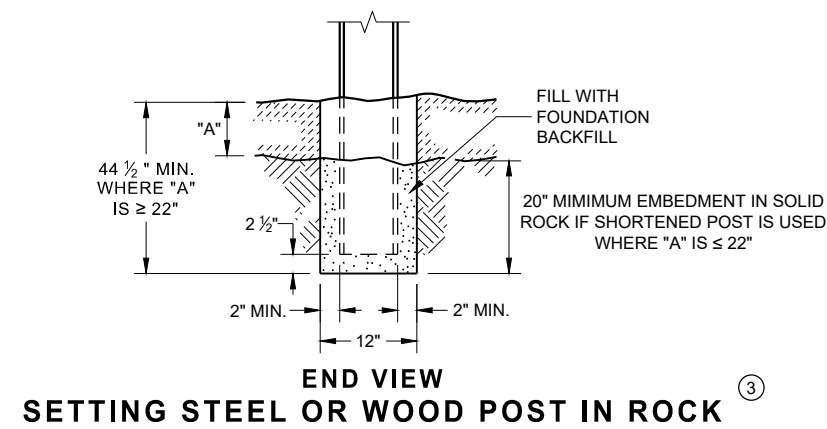
**EXPANSION JOINT DETAIL**

## CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

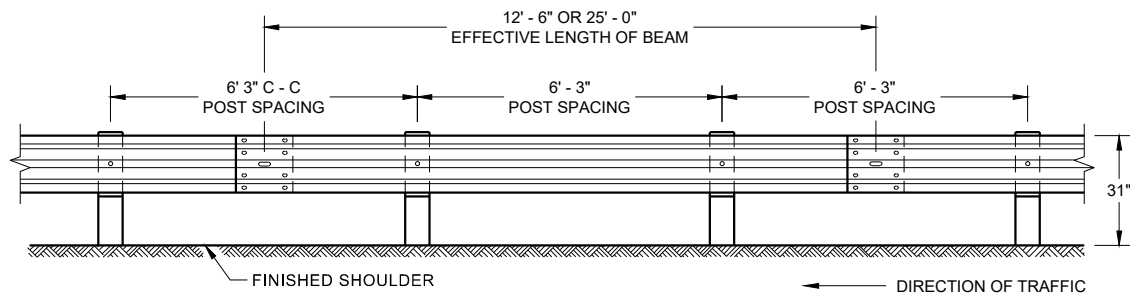
APPROVED  
November 2018 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS  $\pm 1"$ . FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".  
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

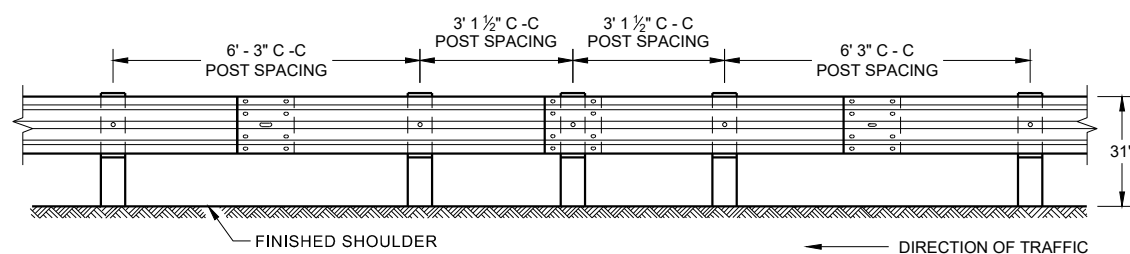


## MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

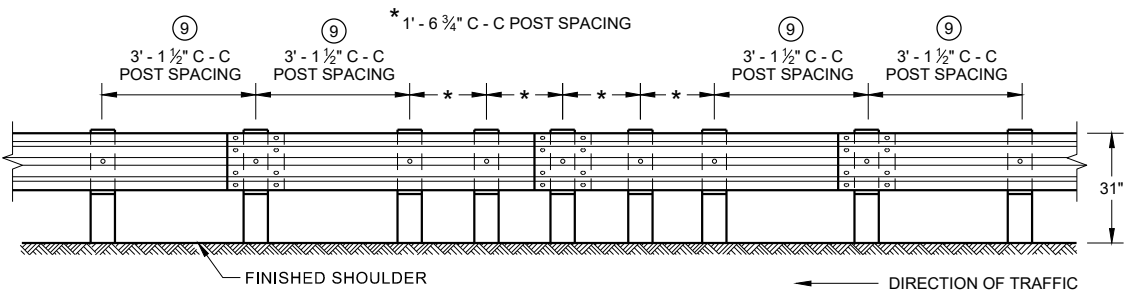
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



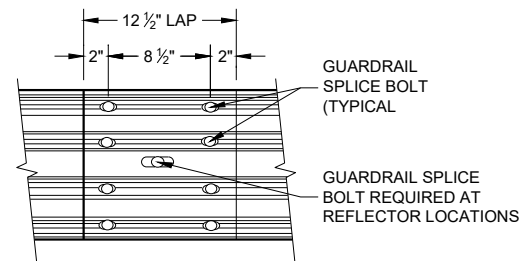
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



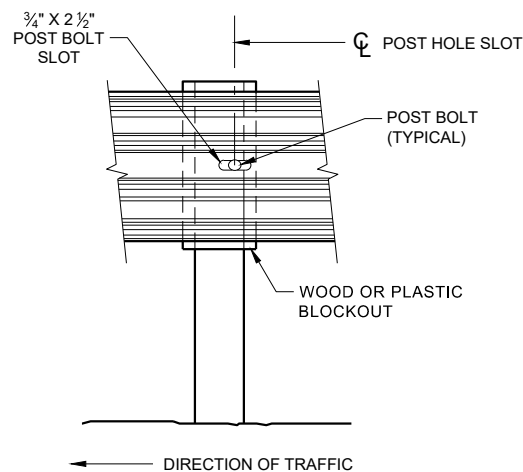
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



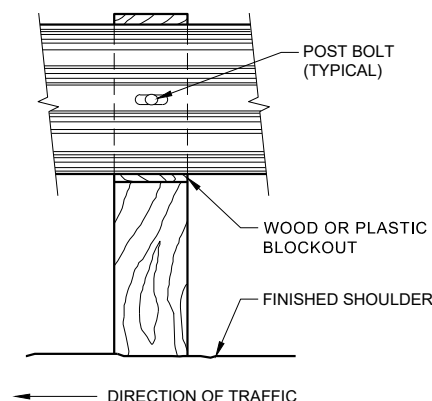
**FRONT VIEW  
QUARTER POST SPACING (QS)**



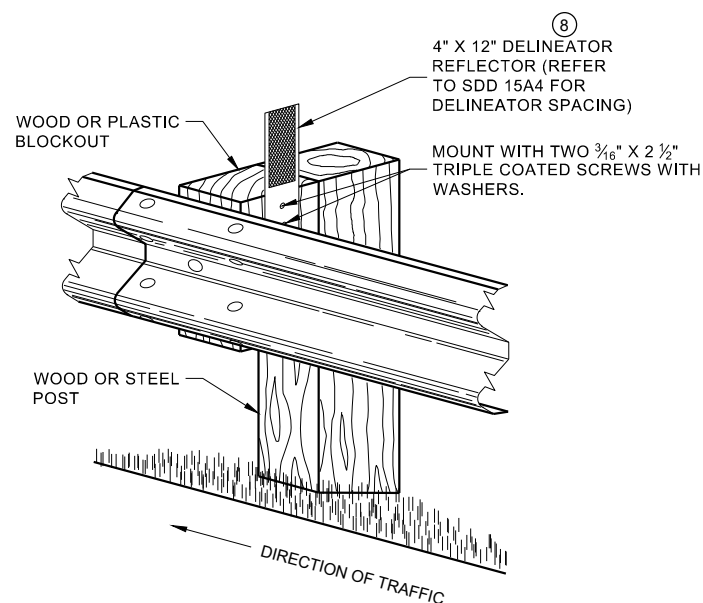
**FRONT VIEW  
MID-SPAN BEAM SPLICE**



**FRONT VIEW AT STEEL POST**



**FRONT VIEW AT WOOD POST**



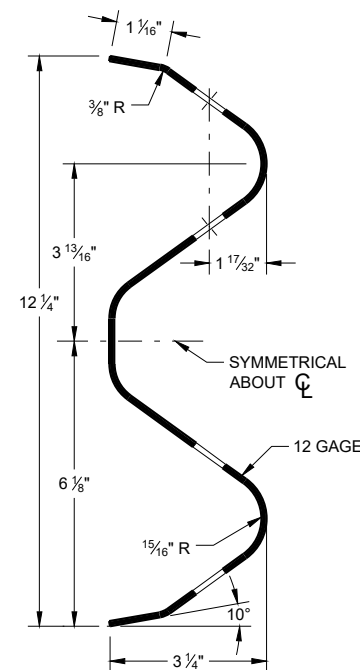
**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

## GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/4" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/4" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

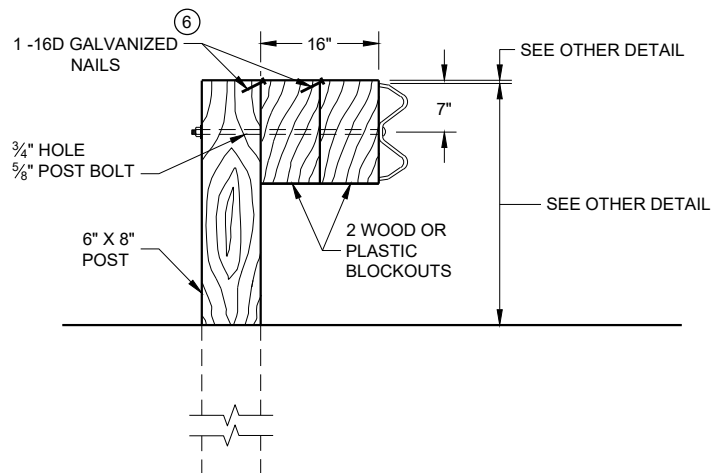
GUARD RAIL SPLICE BOLTS ARE A 3/4" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



**SECTION THRU W-BEAM RAIL**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

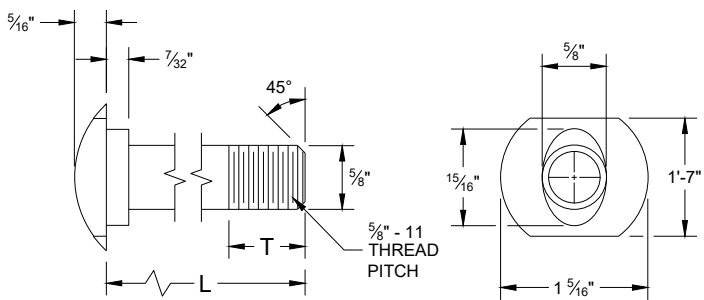
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

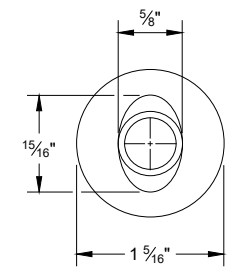
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
  - 2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

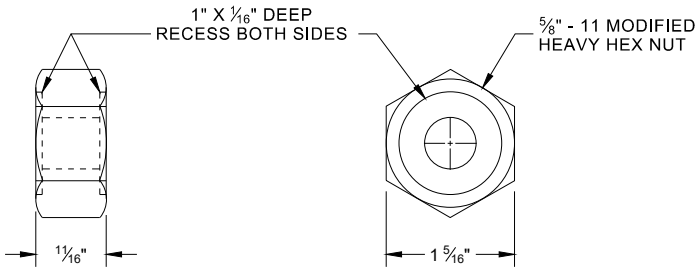


POST BOLT TABLE

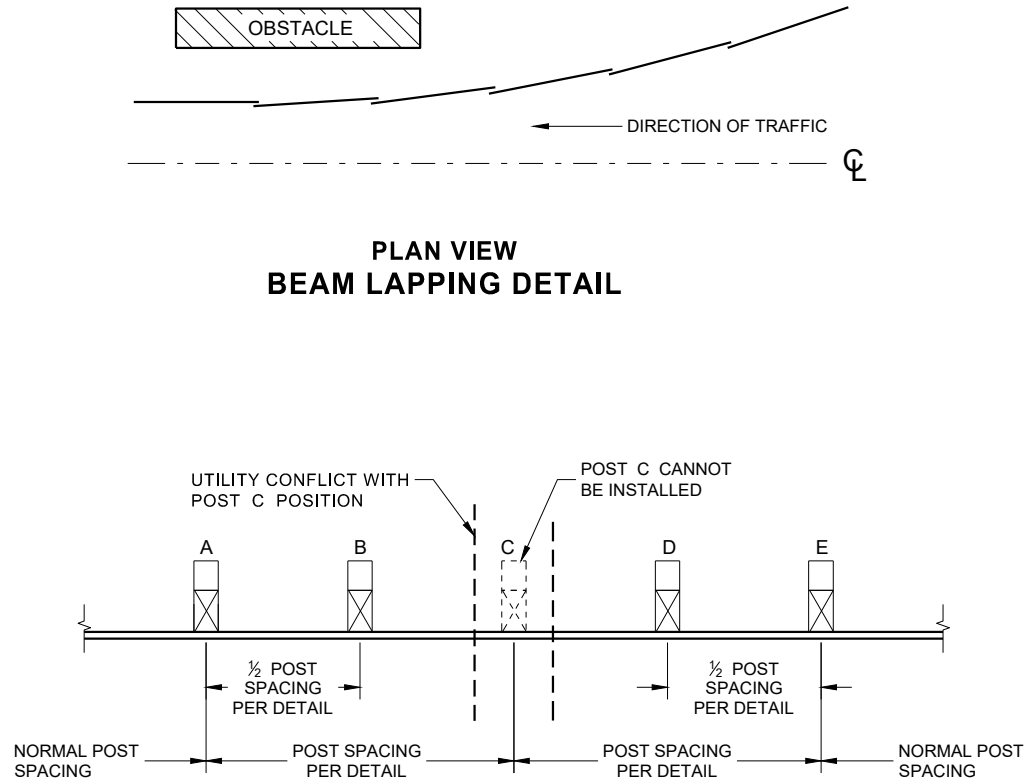
| L      | T (MIN.) |
|--------|----------|
| 1 1/4" | 1 1/8"   |
| 2"     | 1 3/4"   |
| 10"    | 4"       |
| 14"    | 4 1/16"  |
| 18"    | 4"       |
| 21"    | 4 1/16"  |
| 25"    | 4"       |



ALTERNATE BOLT HEAD

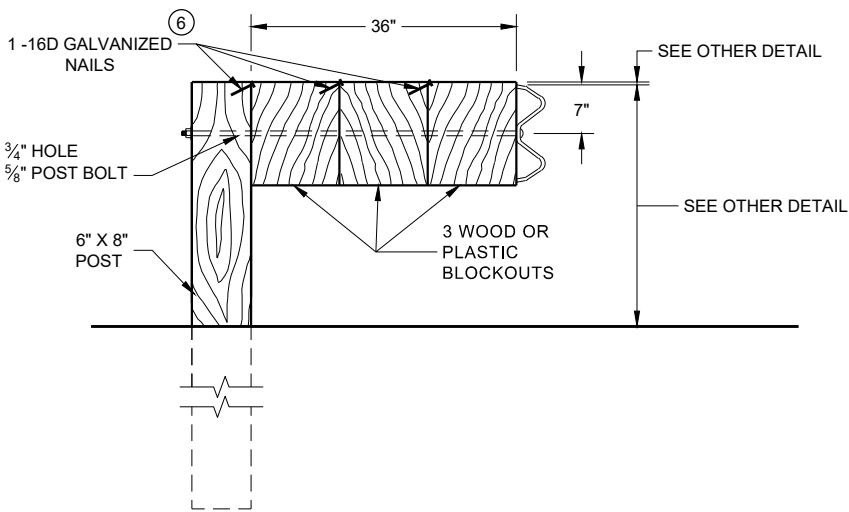


POST BOLT, SPLICE BOLT AND RECESS NUT



PLAN VIEW  
BEAM LAPPING DETAIL

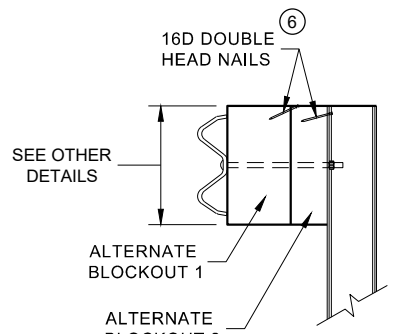
POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION



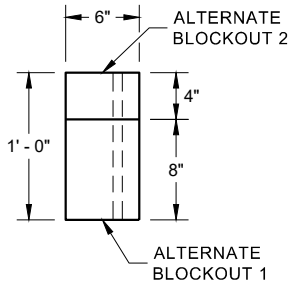
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.  
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



SIDE VIEW

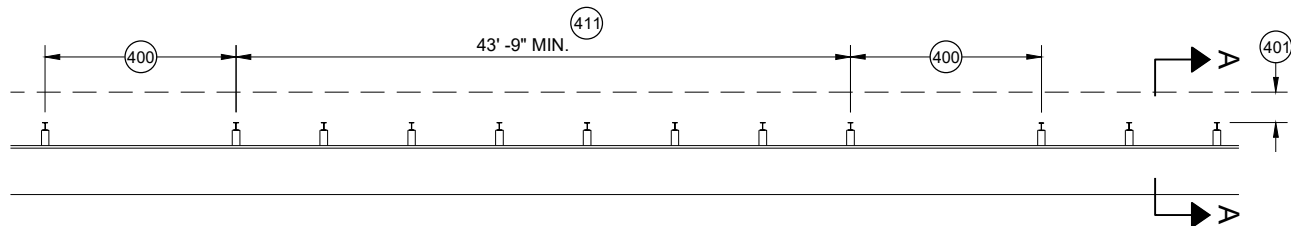


PLAN VIEW

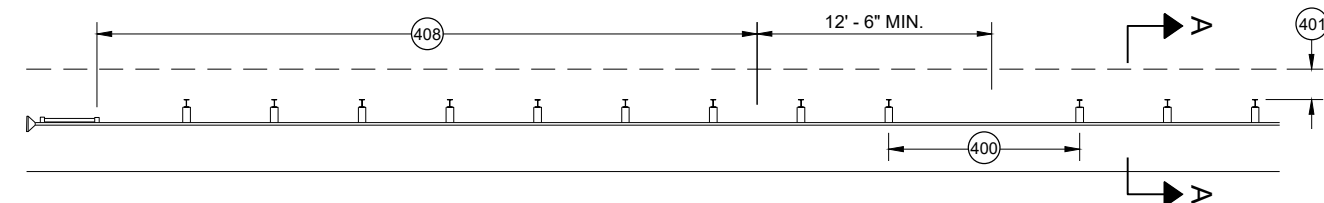
ALTERNATE WOOD  
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL

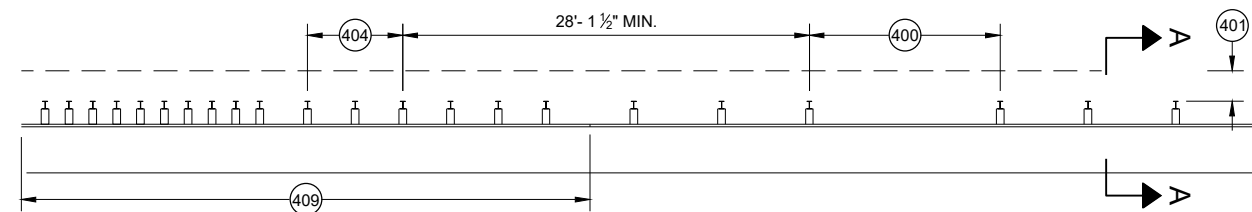
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



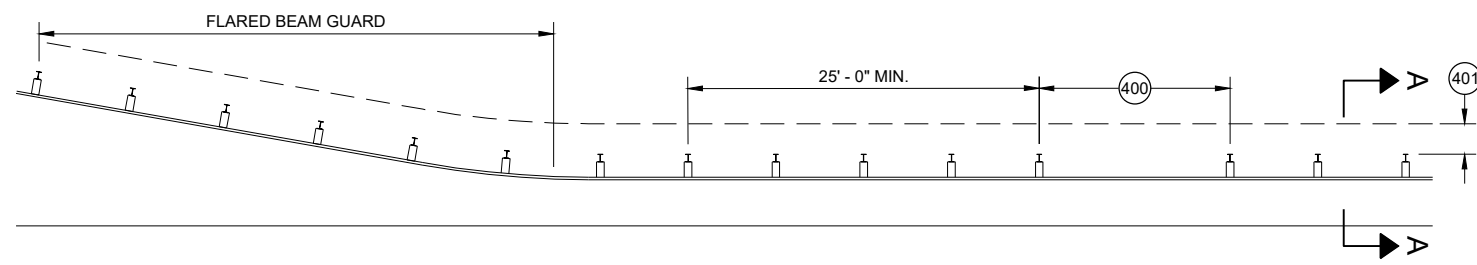
**MISSING POST IN MGS GUARDRAIL**



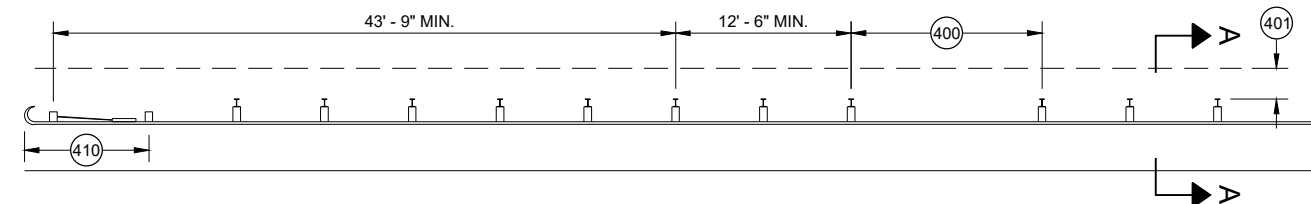
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



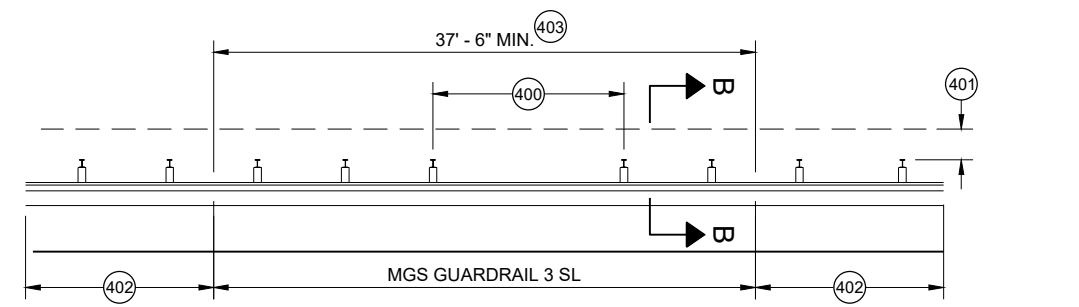
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

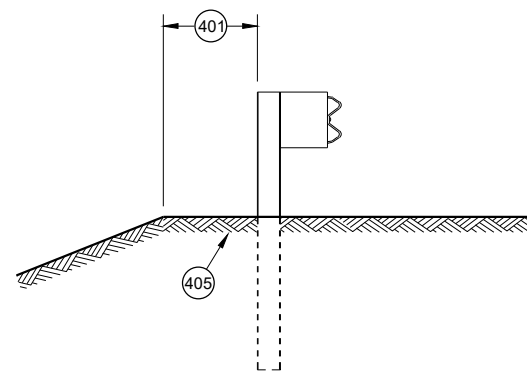


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

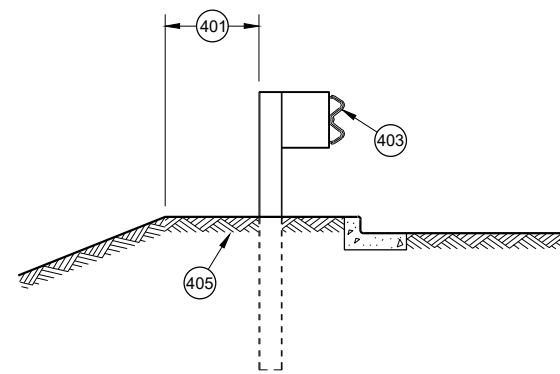


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



**SECTION A - A**



**SECTION B - B**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2021  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

FHWA

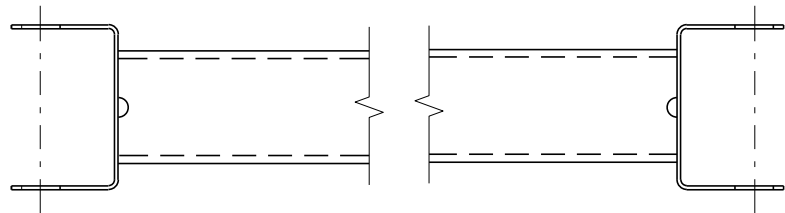
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

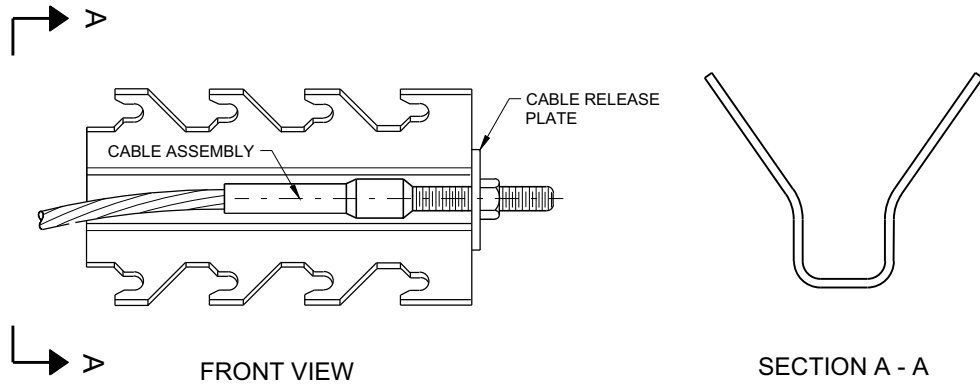


STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

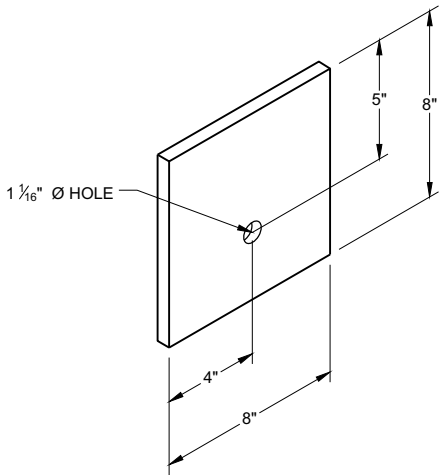


GENERIC GROUND STRUT<sup>9</sup> <sup>E</sup>

| BILL OF MATERIALS |                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------|
| PART NO.          | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. |
| ①                 | UPPER POST NO. 1 6" X 6" TUBE                                                                                  |
| ②                 | LOWER POST NO. 1                                                                                               |
| ③                 | WOOD CRT                                                                                                       |
| ④                 | WOOD BLOCKOUT                                                                                                  |
| ⑤                 | PIPE SLEEVE                                                                                                    |
| ⑥                 | BEARING PLATE                                                                                                  |
| ⑦                 | BCT CABLE ASSEMBLY                                                                                             |
| ⑧                 | ANCHOR CABLE BOX                                                                                               |
| ⑨                 | GROUND STRUT                                                                                                   |
| ⑩                 | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.                                                                 |
| ⑪                 | STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED.<br>SECTIONS VARY IN LENGTH.                                  |
| ⑫                 | IMPACT HEAD                                                                                                    |
| ⑬                 | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST)                                                       |
| ⑭                 | SOIL PLATE                                                                                                     |
| ⑮                 | UPPER POST NO. 2                                                                                               |
| ⑯                 | LOWER POST NO. 2                                                                                               |



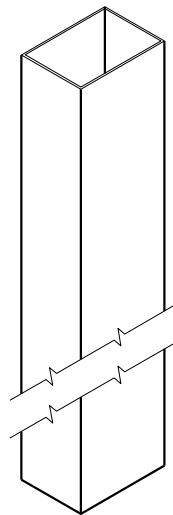
GENERIC ANCHOR CABLE BOX<sup>9</sup> <sup>E</sup>



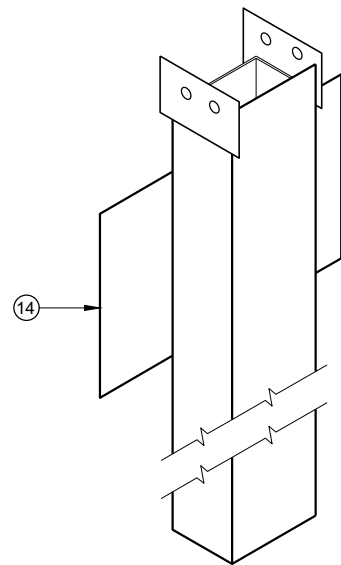
BEARING PLATE<sup>6</sup> <sup>E</sup>

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

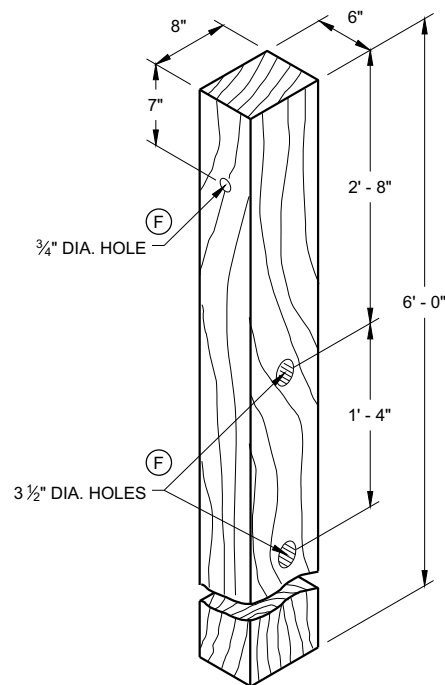
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



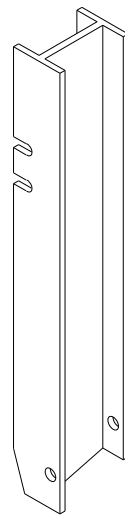
UPPER POST NO. 1<sup>(1) (E)</sup>



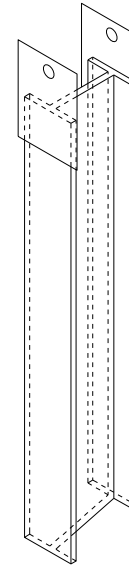
LOWER POST NO. 1<sup>(2) (E)</sup>



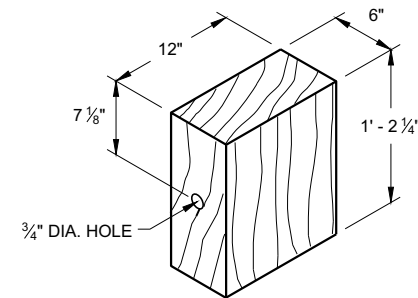
WOOD CRT POST<sup>(3) (E)</sup>  
POSTS NUMBER 3-9



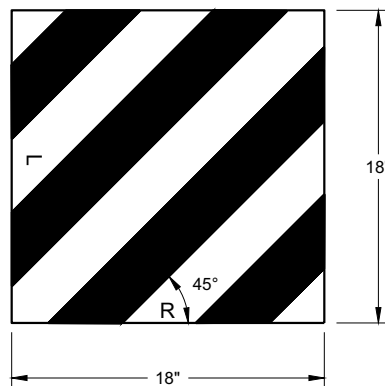
UPPER POST NO. 2<sup>(15) (E)</sup>



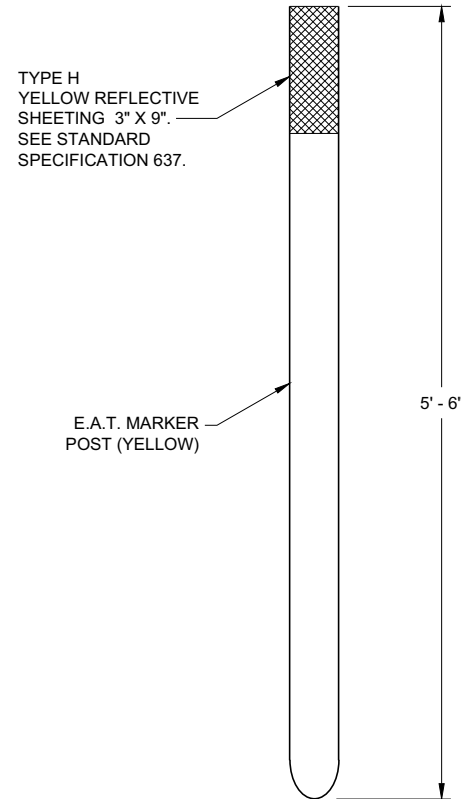
LOWER POST NO. 2<sup>(16) (E)</sup>



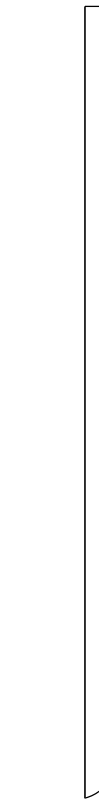
WOOD BLOCKOUT<sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



REFLECTIVE SHEETING DETAIL<sup>(E)</sup>

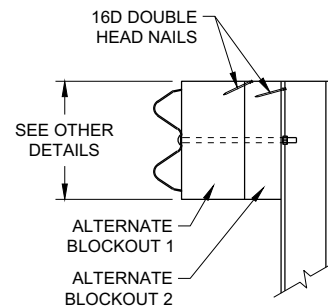


FRONT VIEW

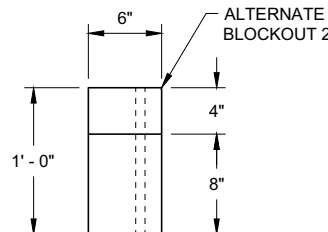


SIDE VIEW

E.A.T. MARKER POST<sup>(13)</sup>



SIDE VIEW



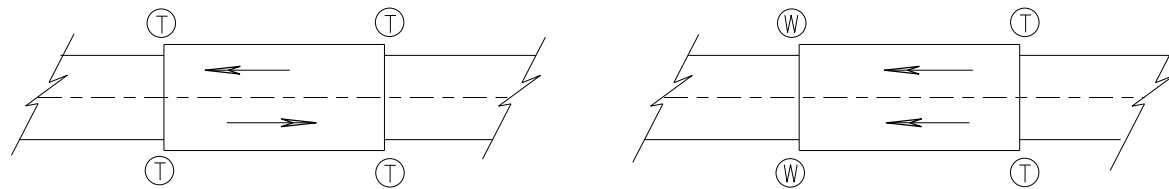
TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

## TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

### GENERAL NOTES

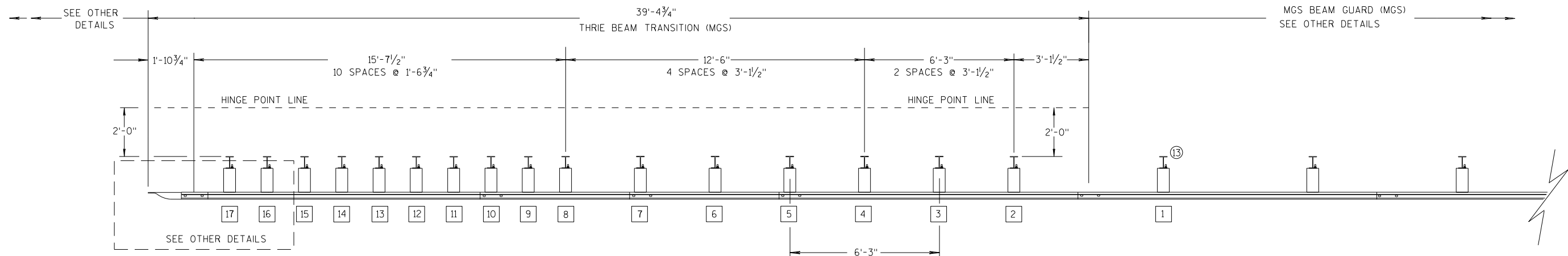
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

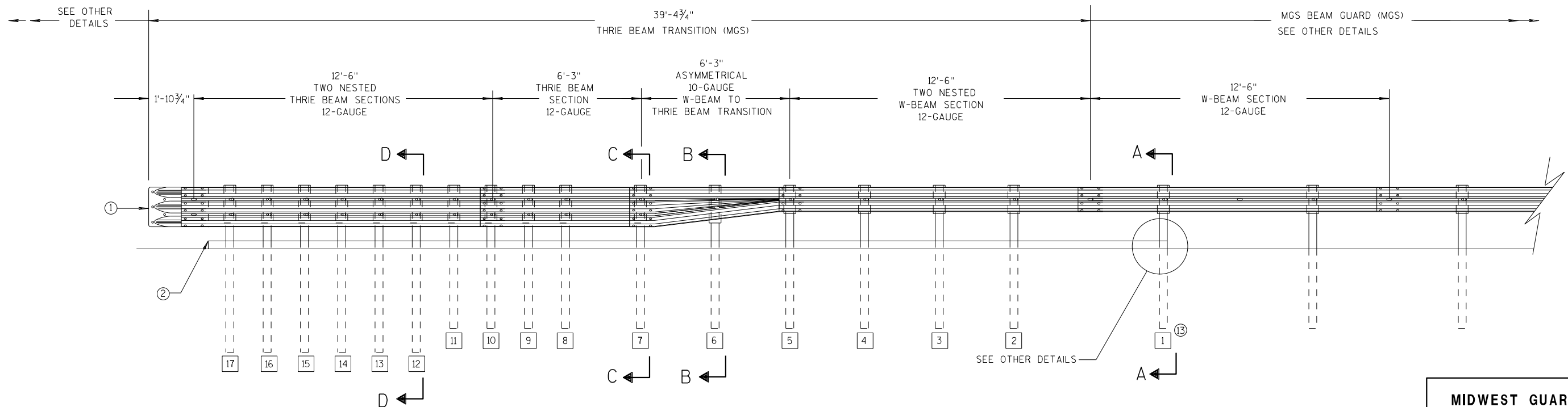
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

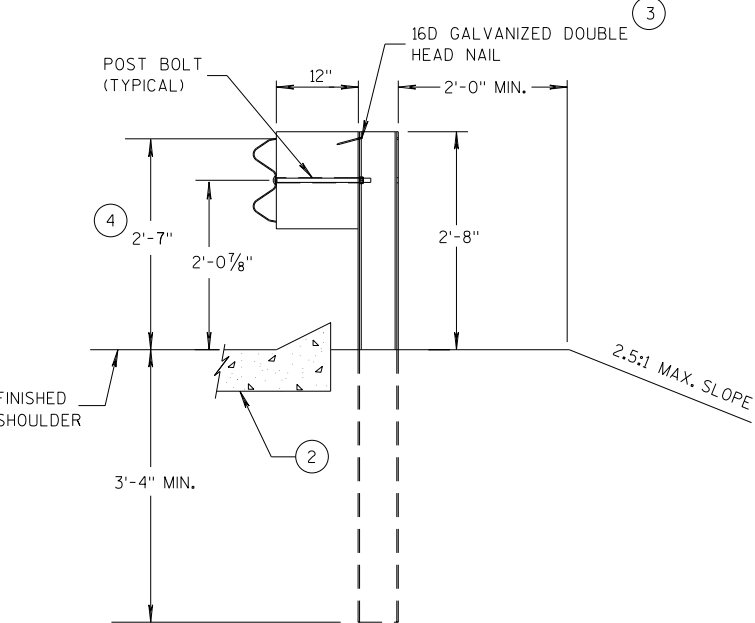
## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

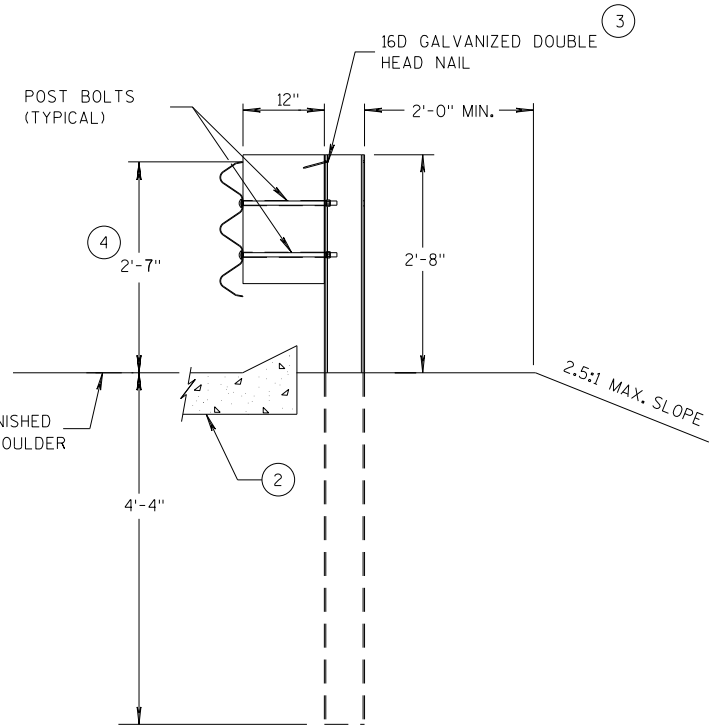
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

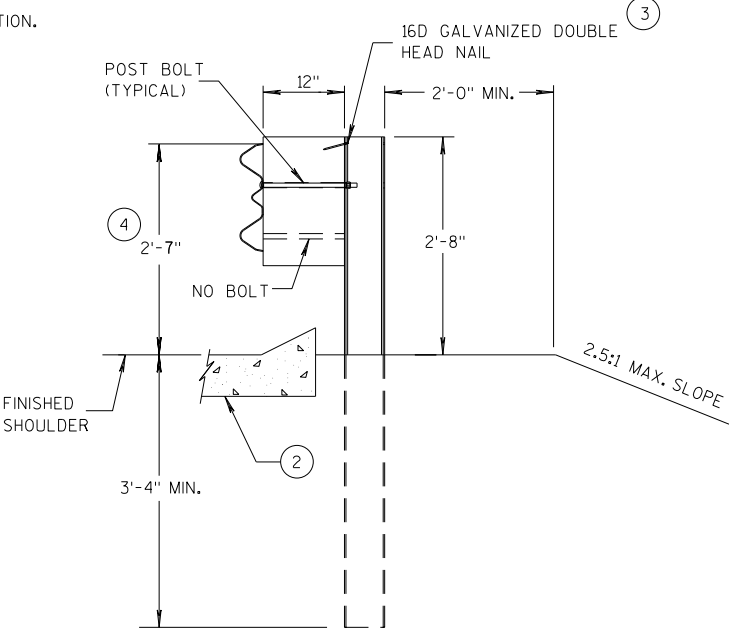
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



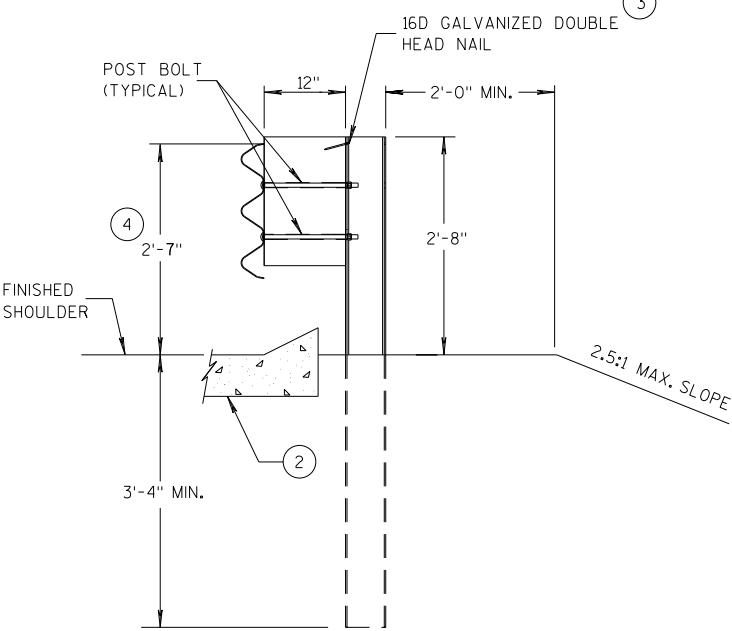
SECTION A-A  
POSTS 1-5



SECTION D-D  
POSTS 12-17



SECTION B-B  
POST 6



SECTION C-C  
POSTS 7-11

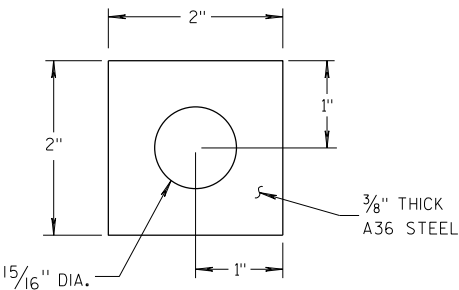
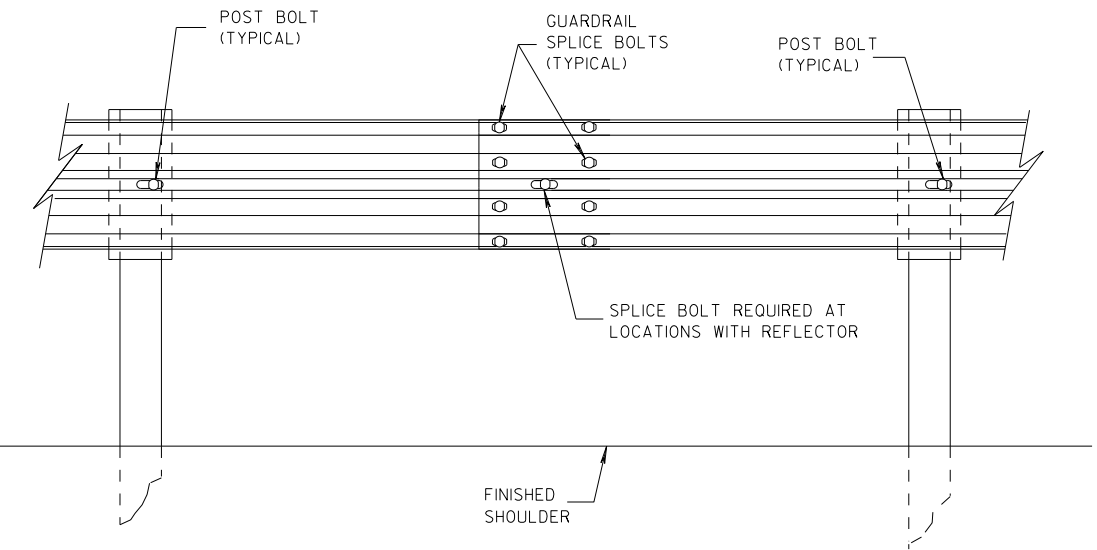
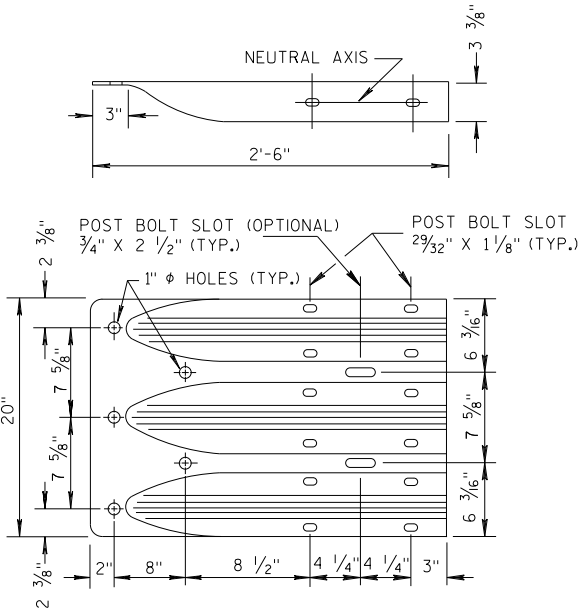


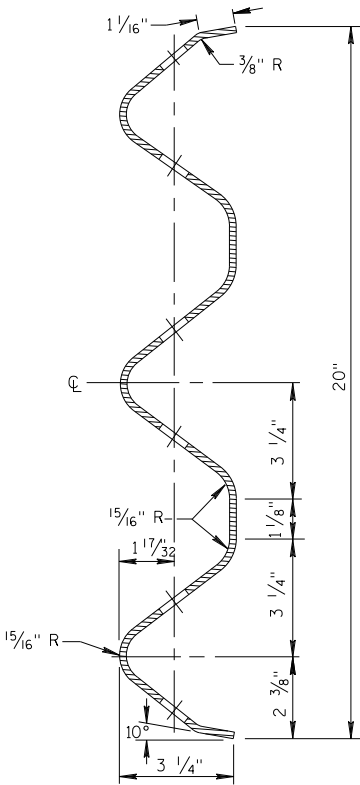
PLATE WASHER DETAIL



SPLICE DETAIL



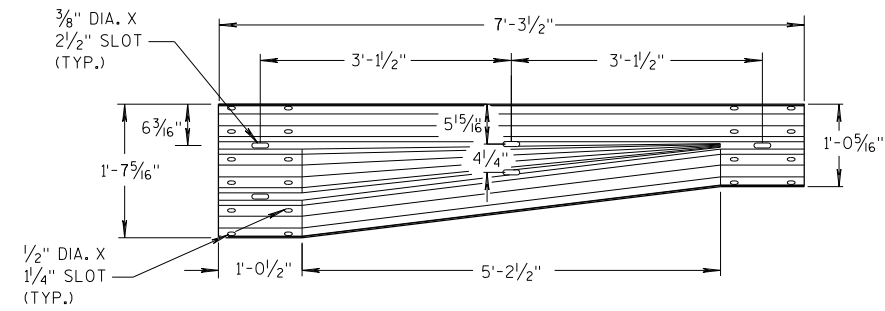
THRIE BEAM  
TERMINAL CONNECTOR



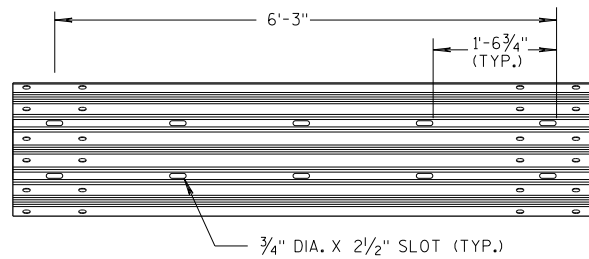
SECTION THRU THRIE  
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

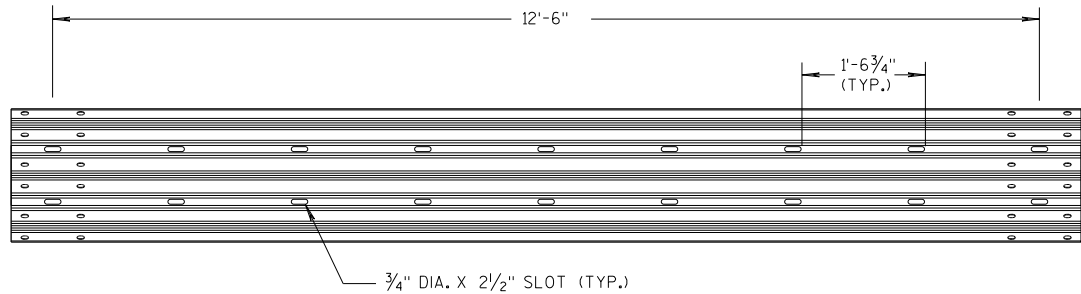
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



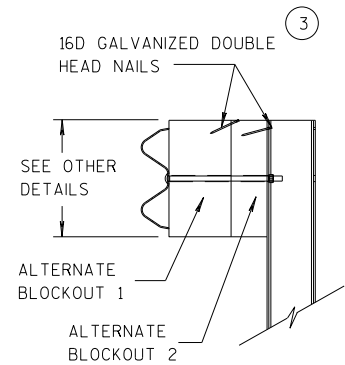
W-BEAM TO THRIE BEAM TRANSITION SECTION



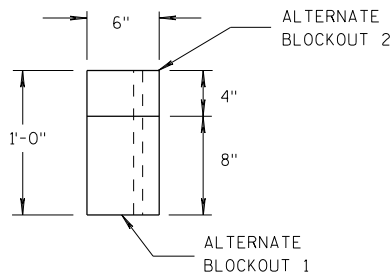
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

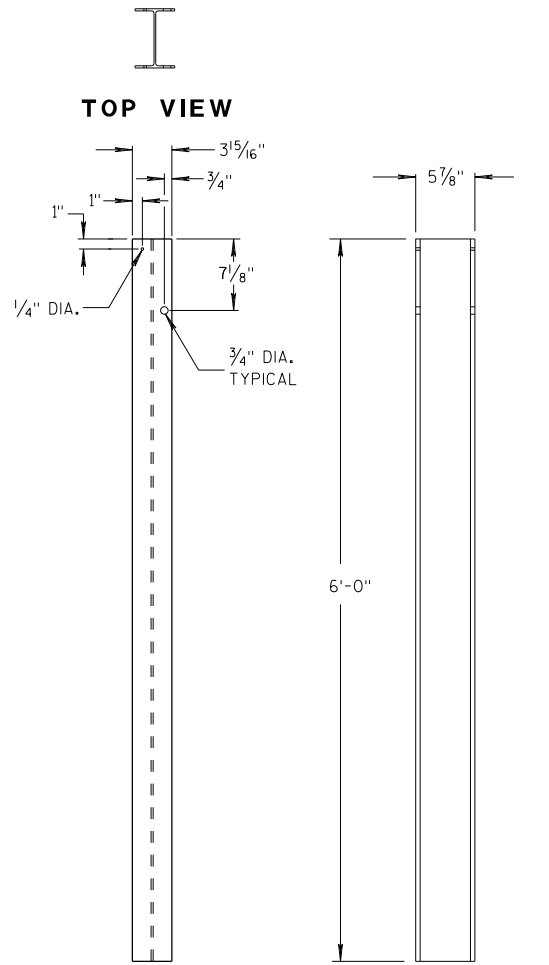


SIDE VIEW



TOP VIEW

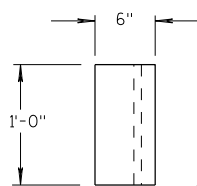
ALTERNATE WOOD BLOCKOUT DETAIL



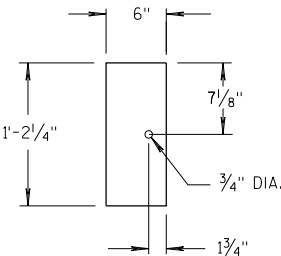
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

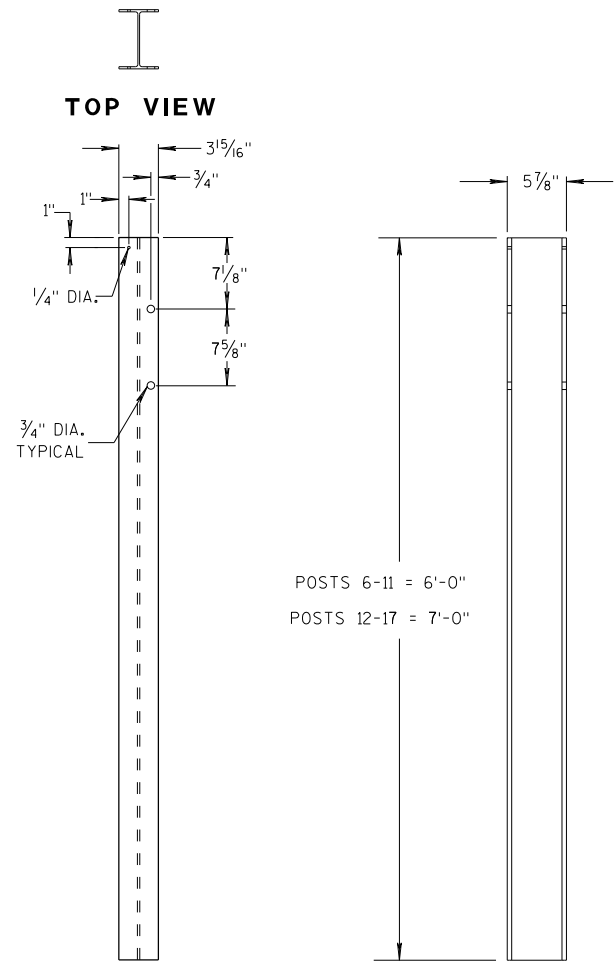


TOP VIEW



FRONT VIEW

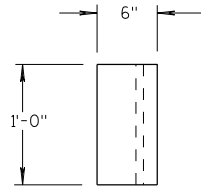
BLOCKOUT POSTS 1-5



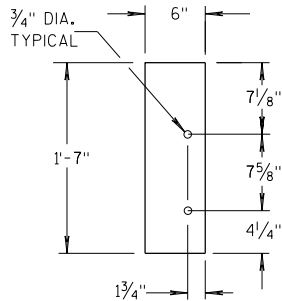
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

### GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

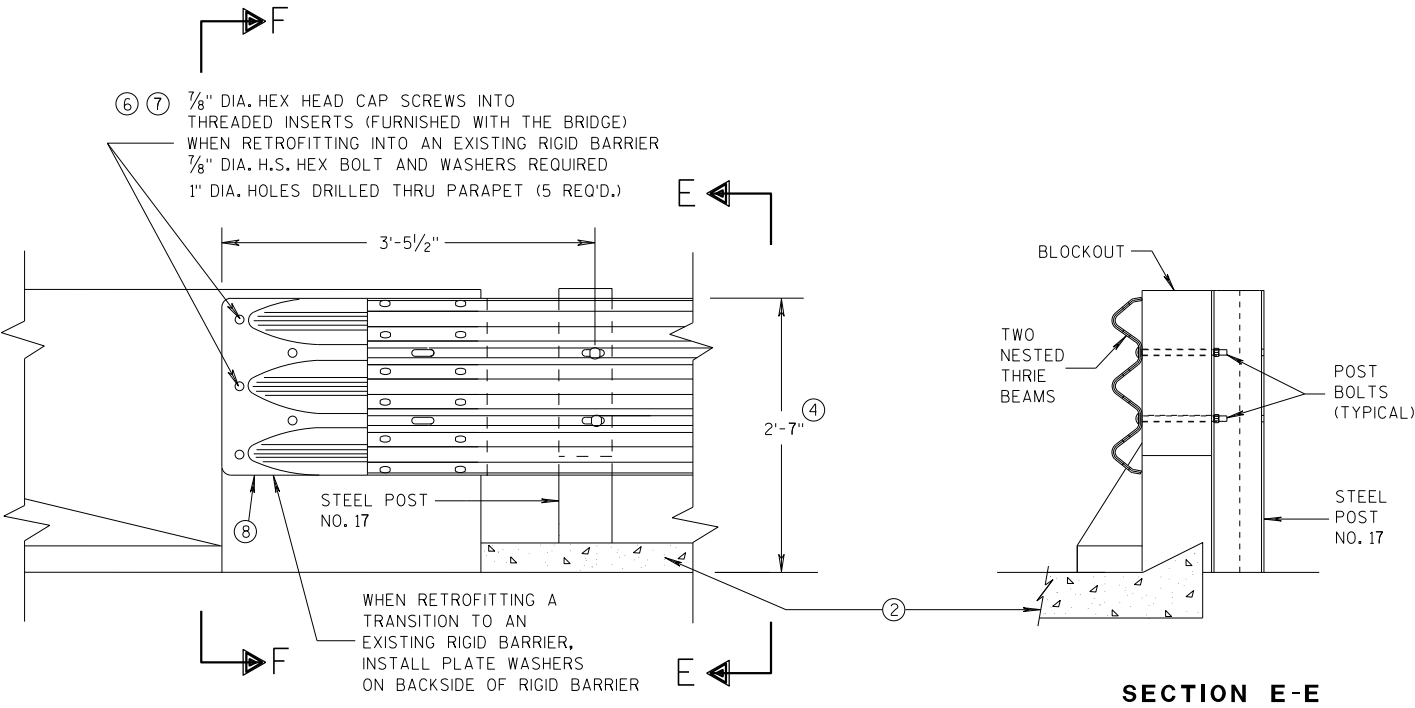
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

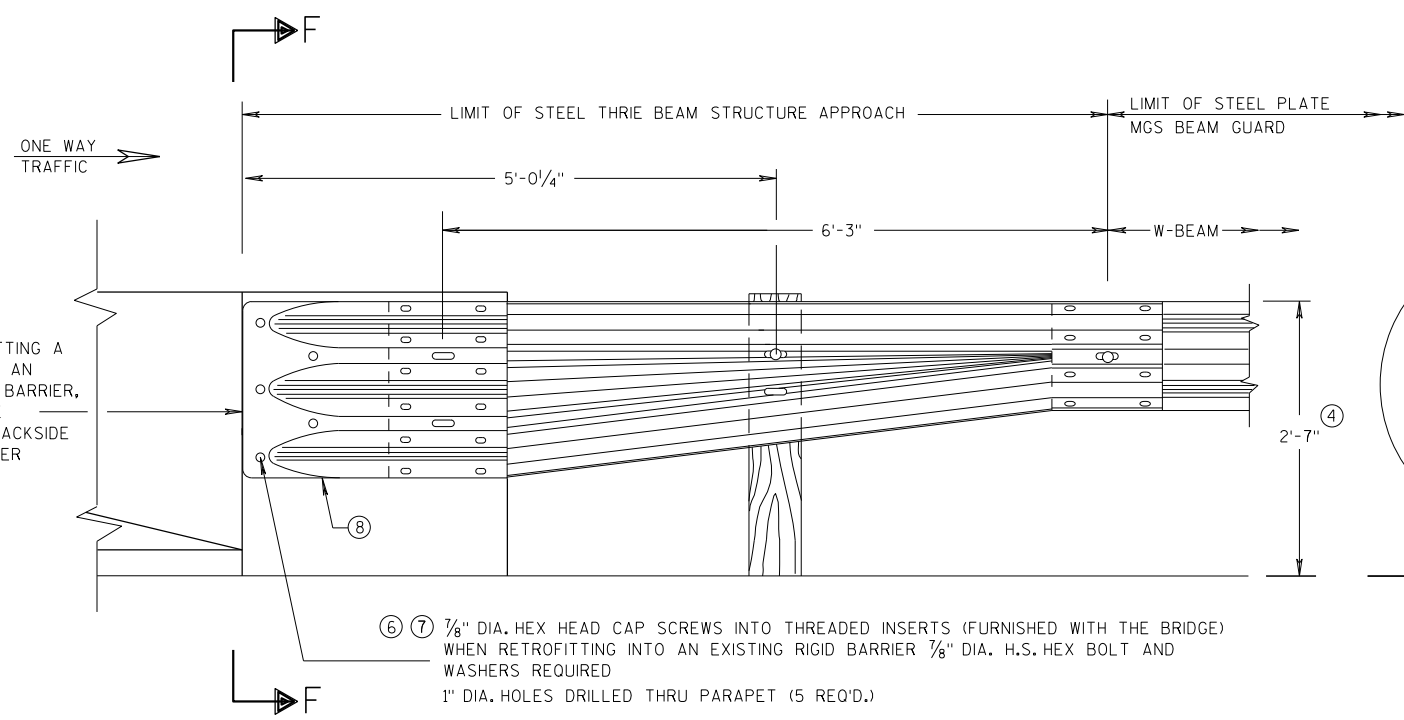
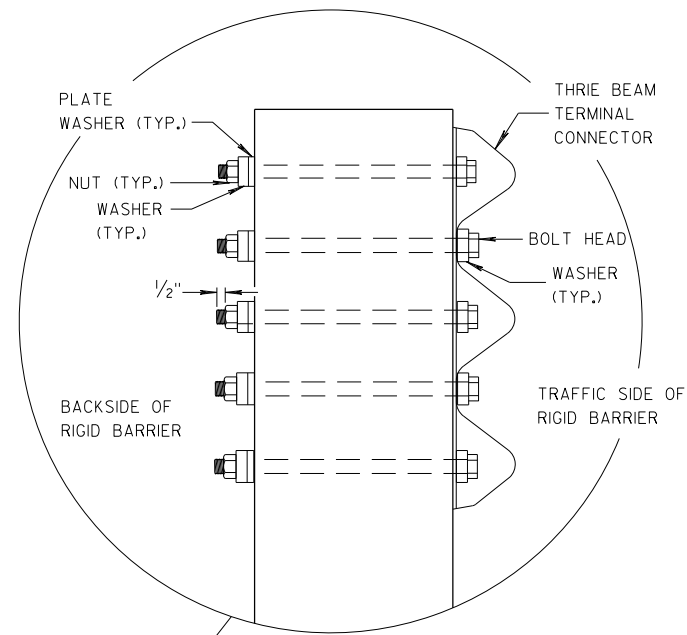
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

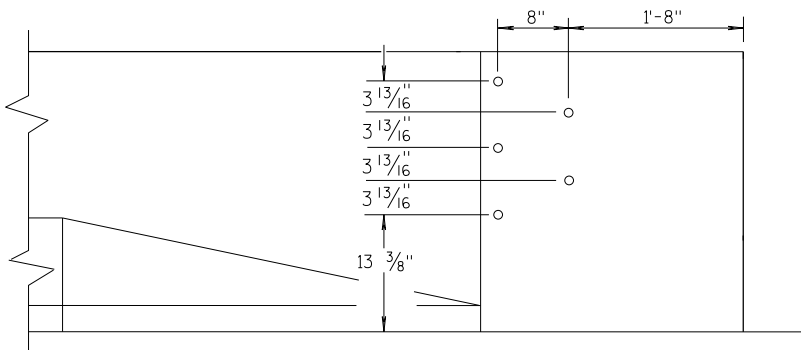


**GENERAL NOTES**

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



**SECTION F-F**

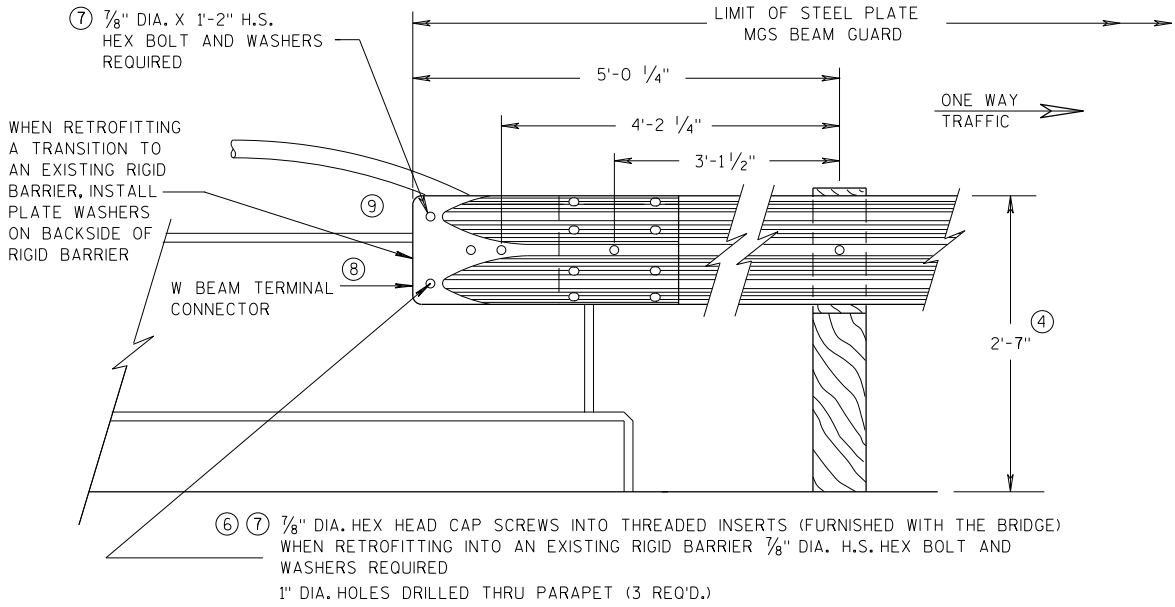


| MIDWEST GUARDRAIL SYSTEM<br>THRIE BEAM TRANSITION (MGS) |                                                                       |
|---------------------------------------------------------|-----------------------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |                                                                       |
| APPROVED<br>07/2018<br>DATE                             | /S/ Rodney Taylor<br>ROADWAY STANDARDS DEVELOPMENT<br>UNIT SUPERVISOR |
| FHWA                                                    |                                                                       |

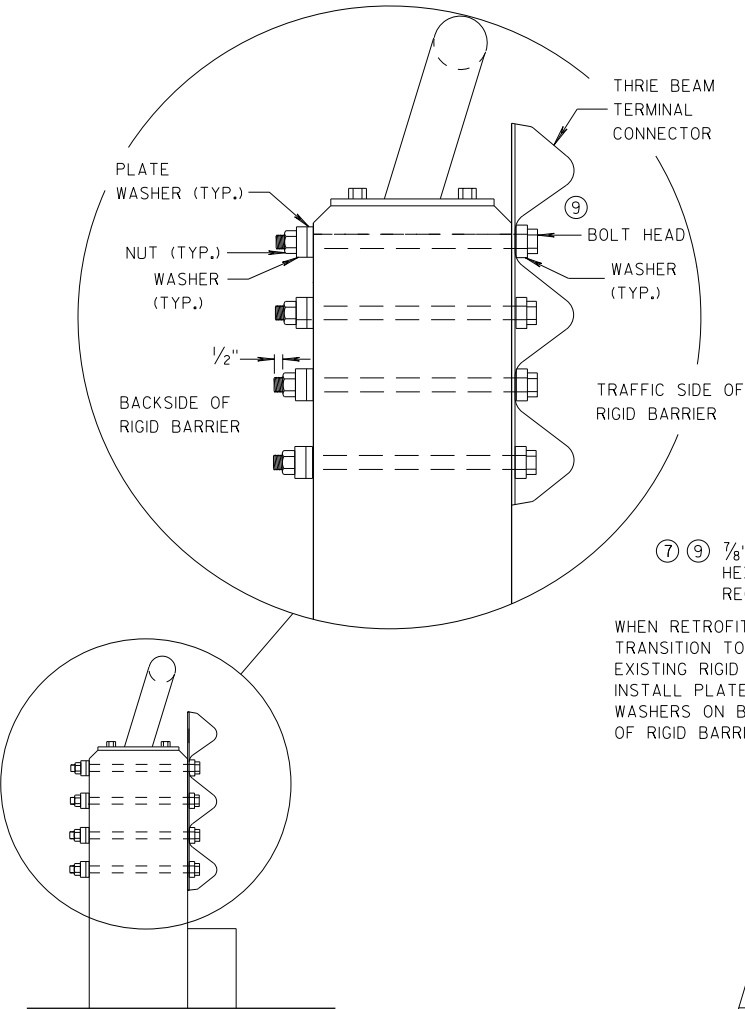
GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

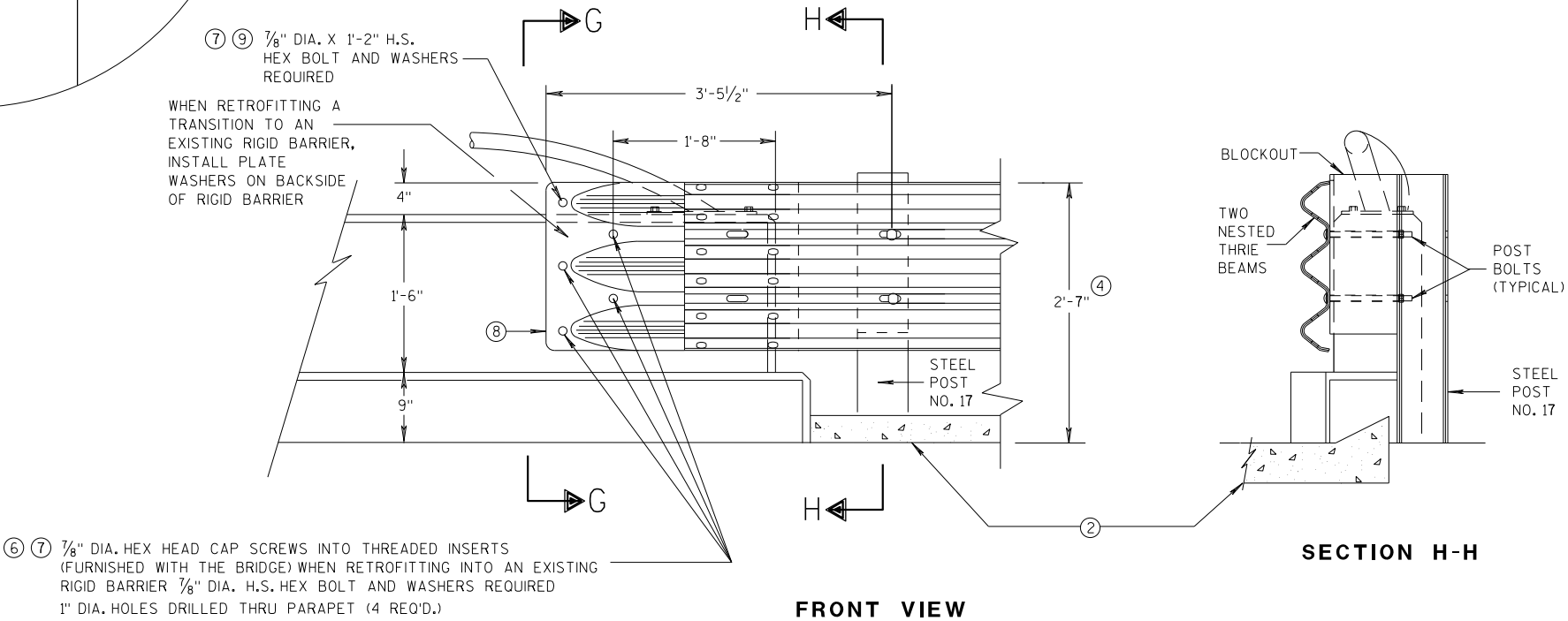
- ②
- OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④
- TOLERANCE FOR TOP OF BEAM IS ± 1".
- ⑥
- DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦
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- ⑧
- THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ⑨
- BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



FRONT VIEW  
W BEAM CONNECTION TO VERTICAL FACE PARAPET  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW

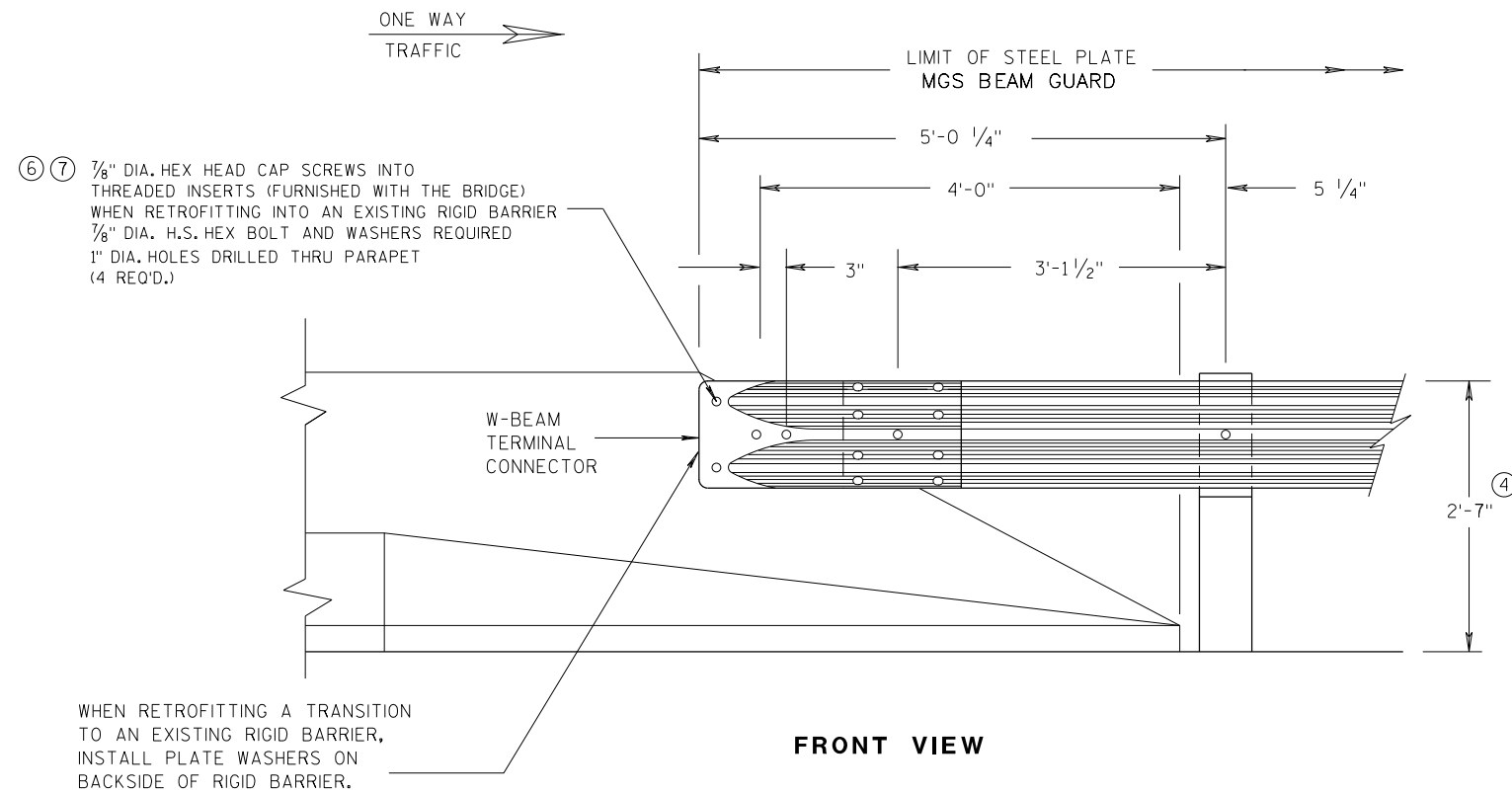
SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

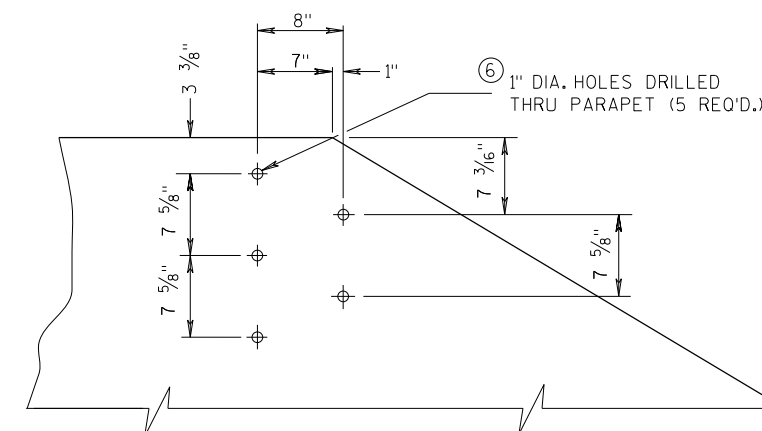
APPROVED  
07/2018  
DATE  
FHWA  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR



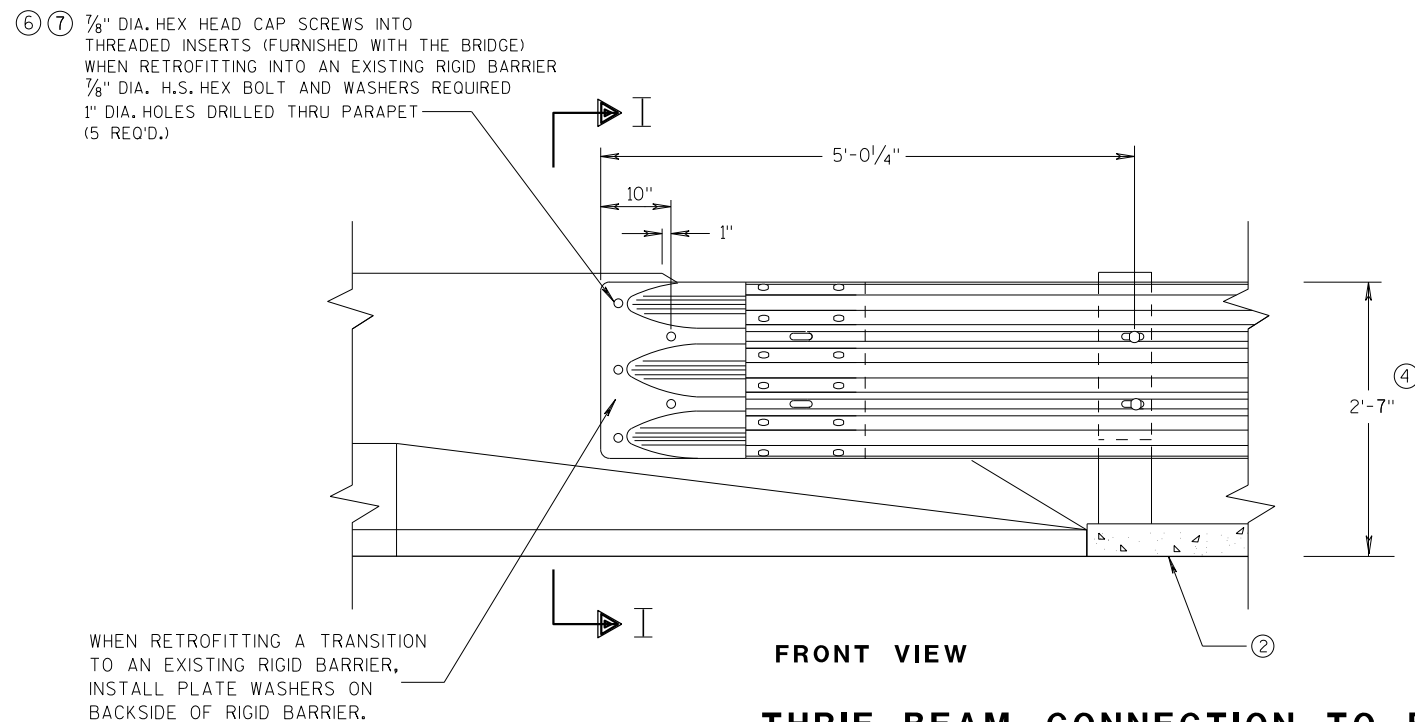
**W BEAM CONNECTION TO  
PARAPETS WITH SLOPED ENDS**  
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

## GENERAL NOTES

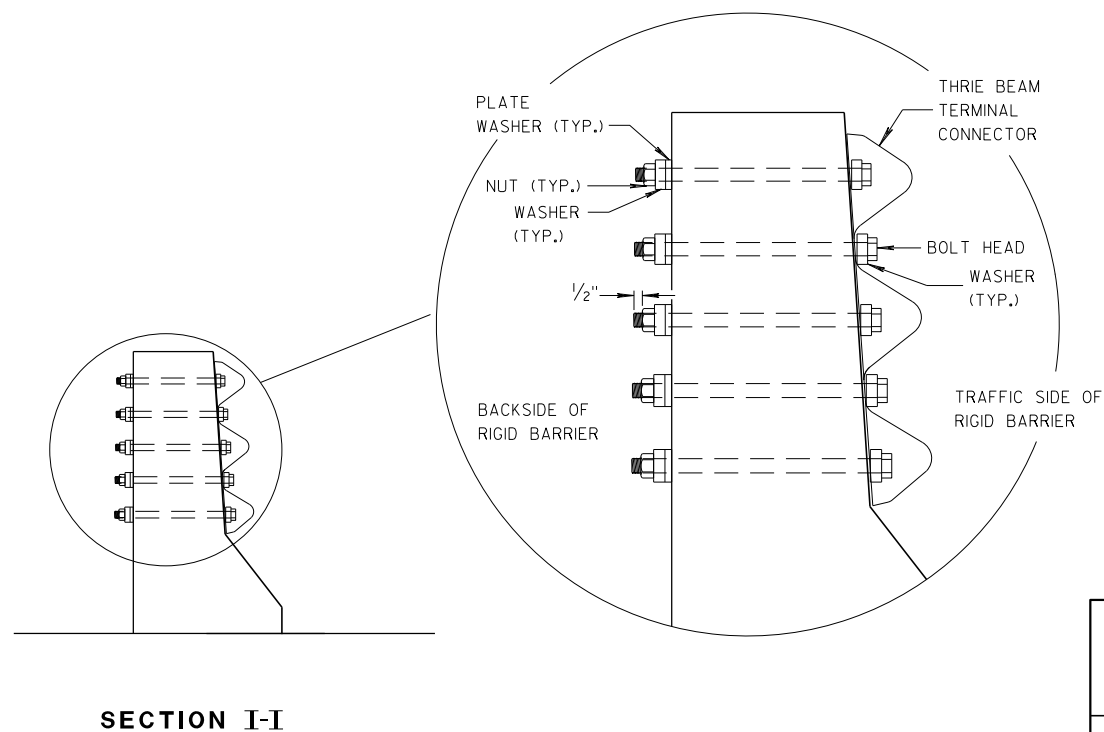
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
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**DRILL HOLE LOCATION AND PATTERN  
FOR THRIE BEAM CONNECTION**



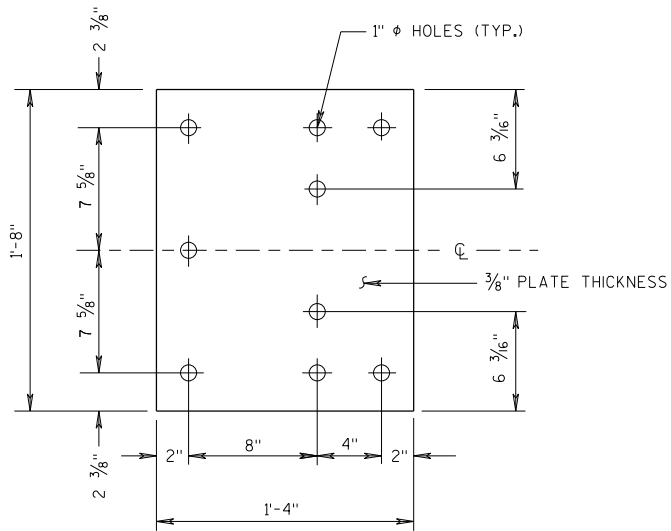
**THRIE BEAM CONNECTION TO BRIDGE  
PARAPETS WITH SLOPED ENDS**



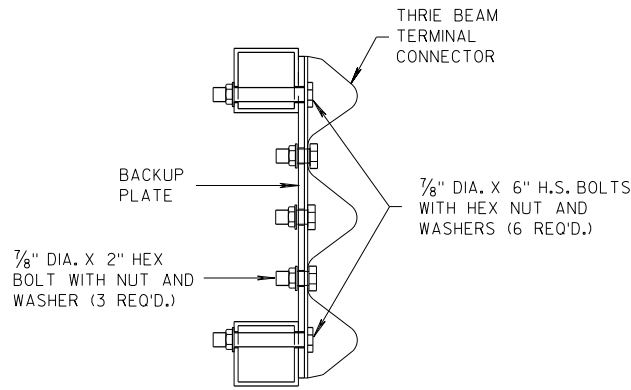
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

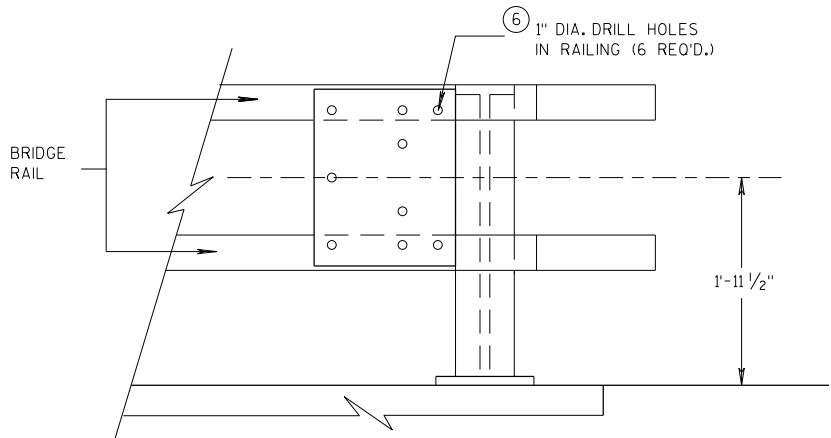
APPROVED  
07/2018  
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/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



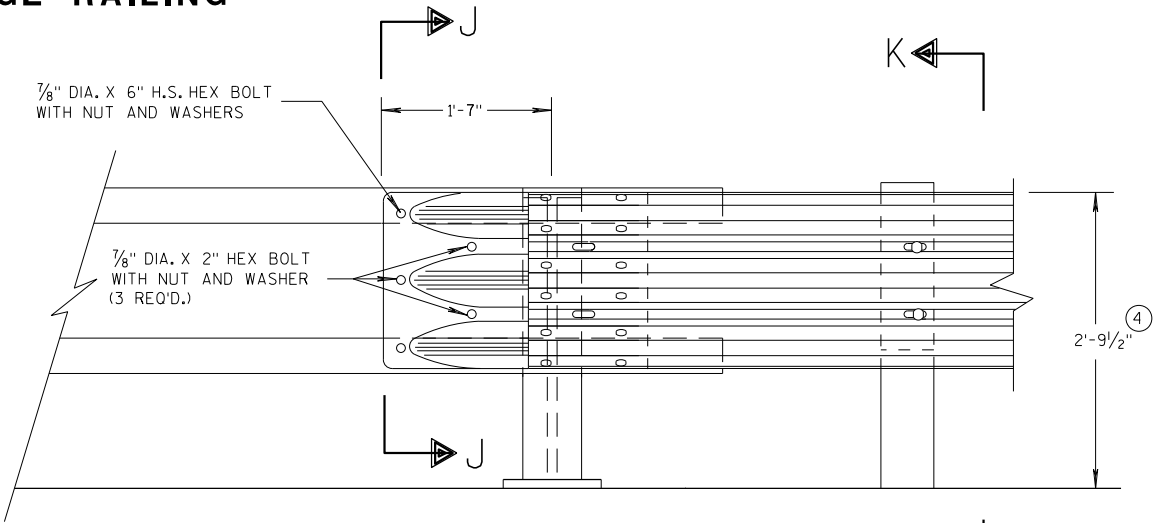
BACK-UP PLATE DETAIL



SECTION J-J

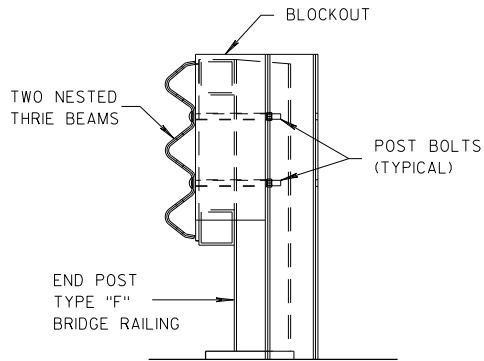


BACK-UP PLATE MOUNTING  
ONTO BRIDGE RAILING



FRONT VIEW

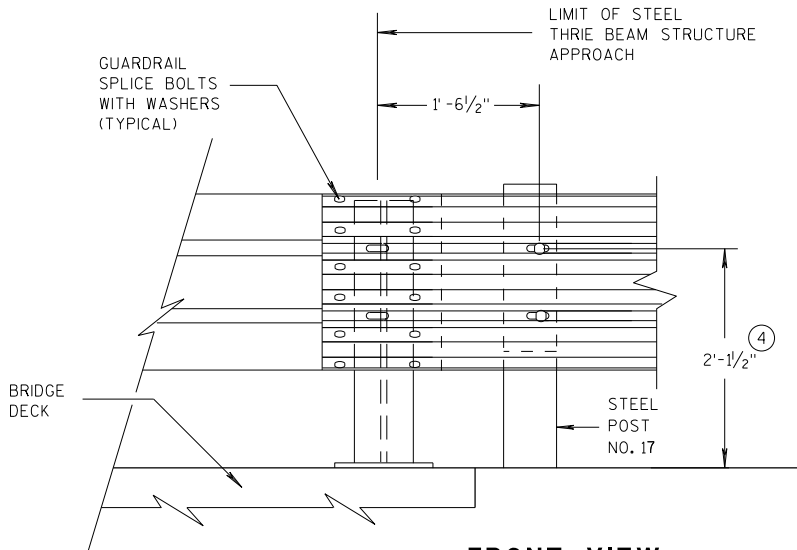
THRIE BEAM CONNECTION TO  
TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



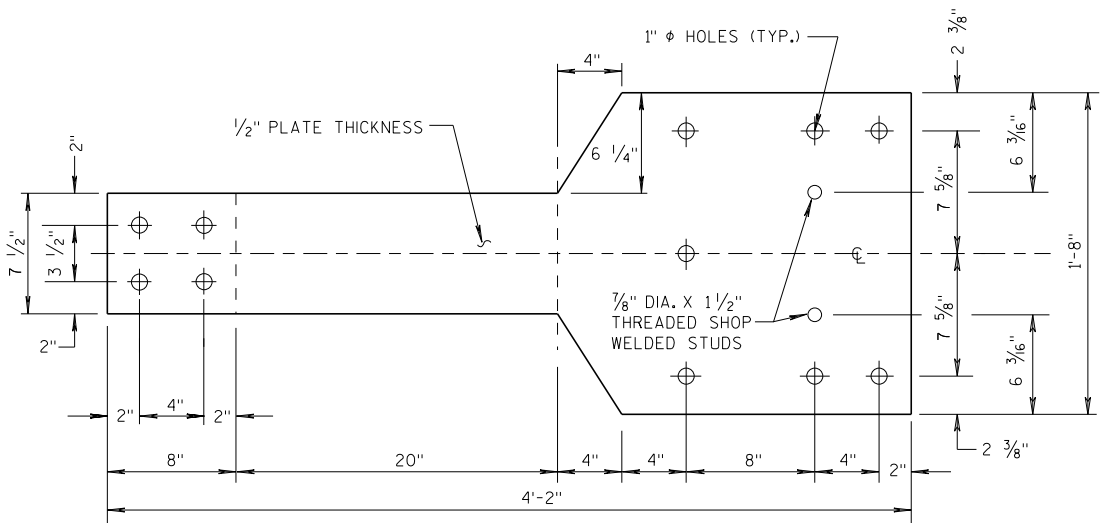
FRONT VIEW

THRIE BEAM CONNECTION TO  
STEEL RAILING TYPE "W"

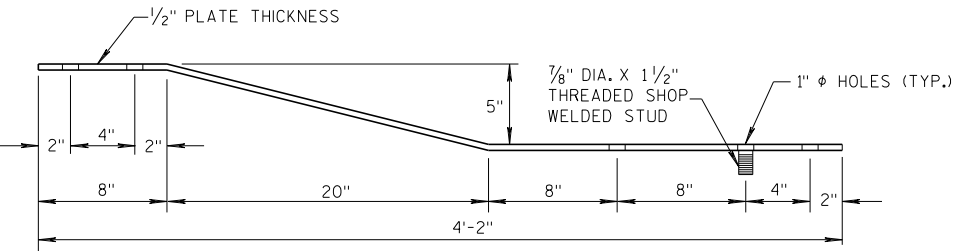
|                                                         |                                                                       |
|---------------------------------------------------------|-----------------------------------------------------------------------|
| MIDWEST GUARDRAIL SYSTEM<br>THRIE BEAM TRANSITION (MGS) |                                                                       |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |                                                                       |
| APPROVED<br>07/2018<br>DATE                             | /S/ Rodney Taylor<br>ROADWAY STANDARDS DEVELOPMENT<br>UNIT SUPERVISOR |
| FHWA                                                    |                                                                       |

GENERAL NOTES

④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

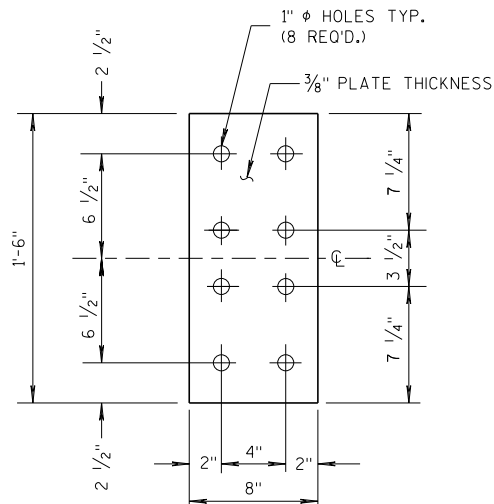


FRONT VIEW



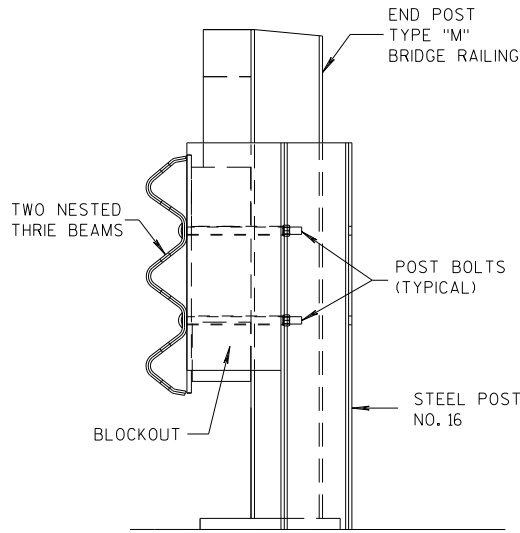
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

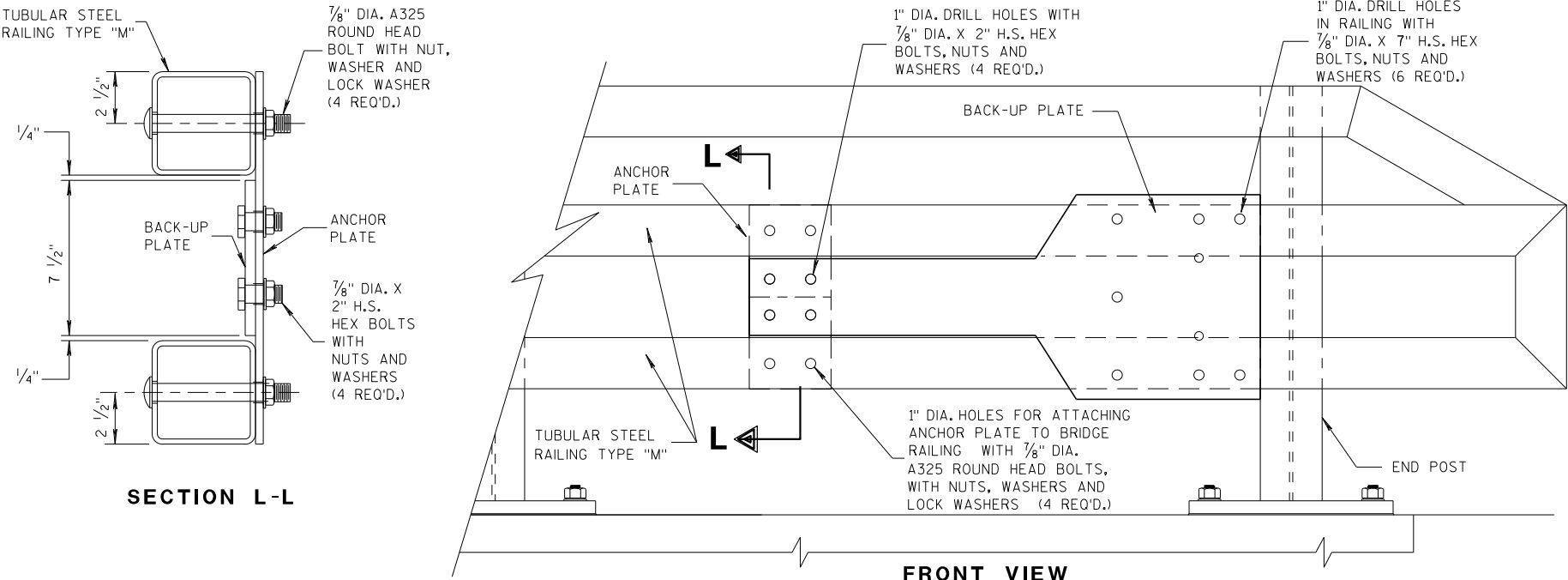


FRONT VIEW

ANCHOR  
PLATE DETAIL,  
TYPE "M"



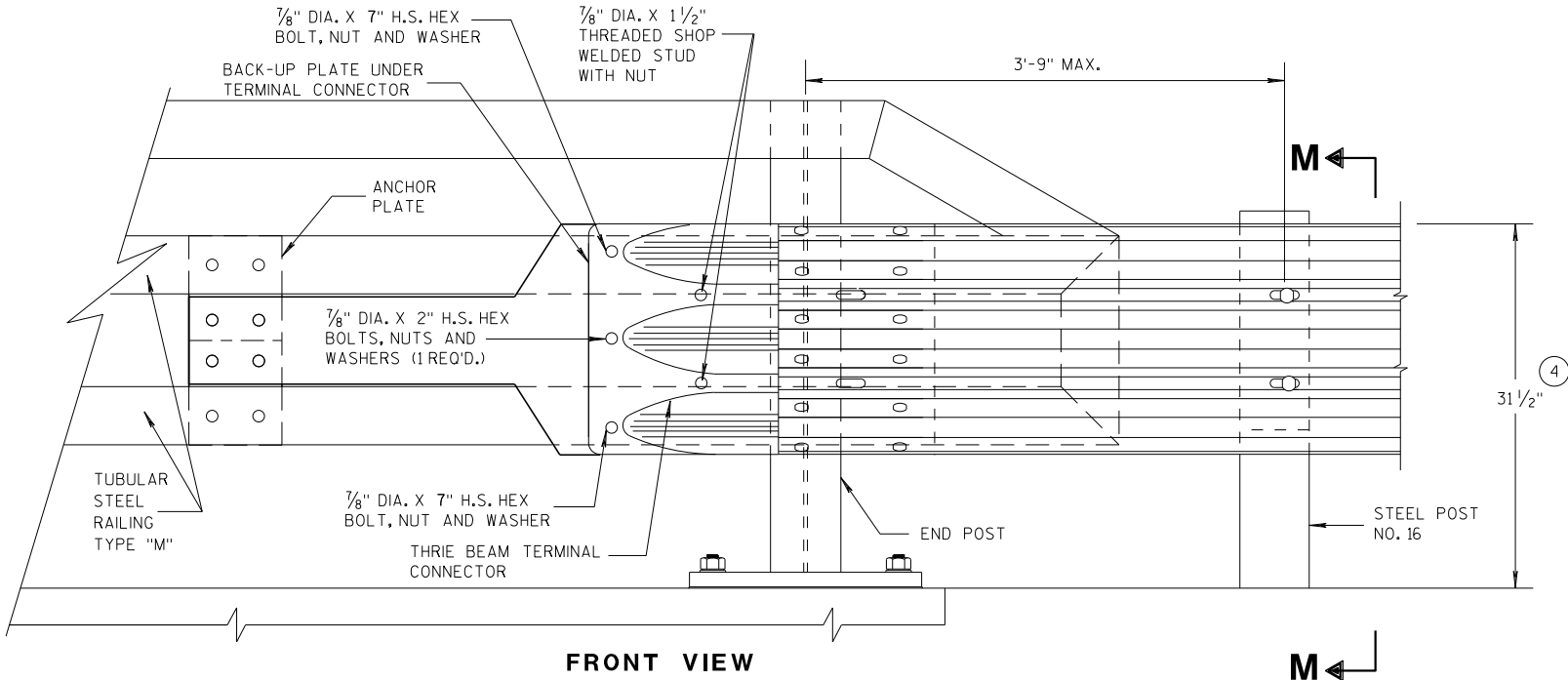
SECTION M-M



SECTION L-L

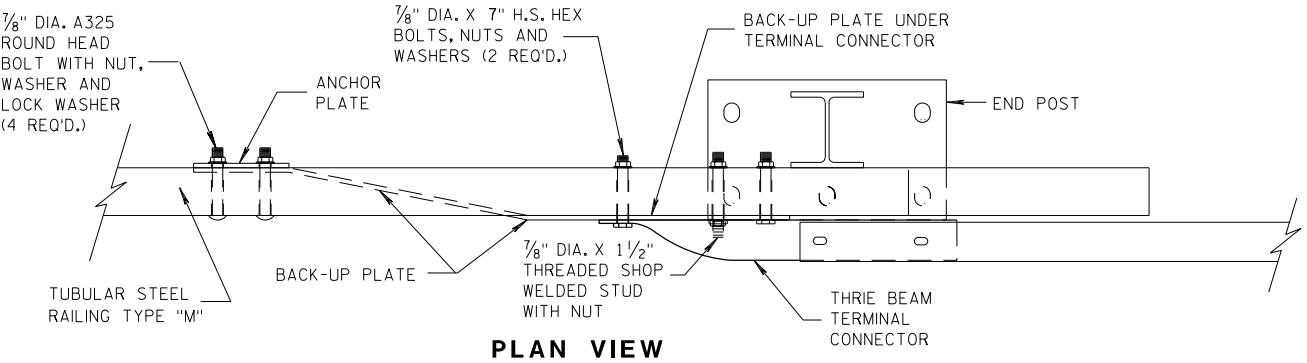
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW

M



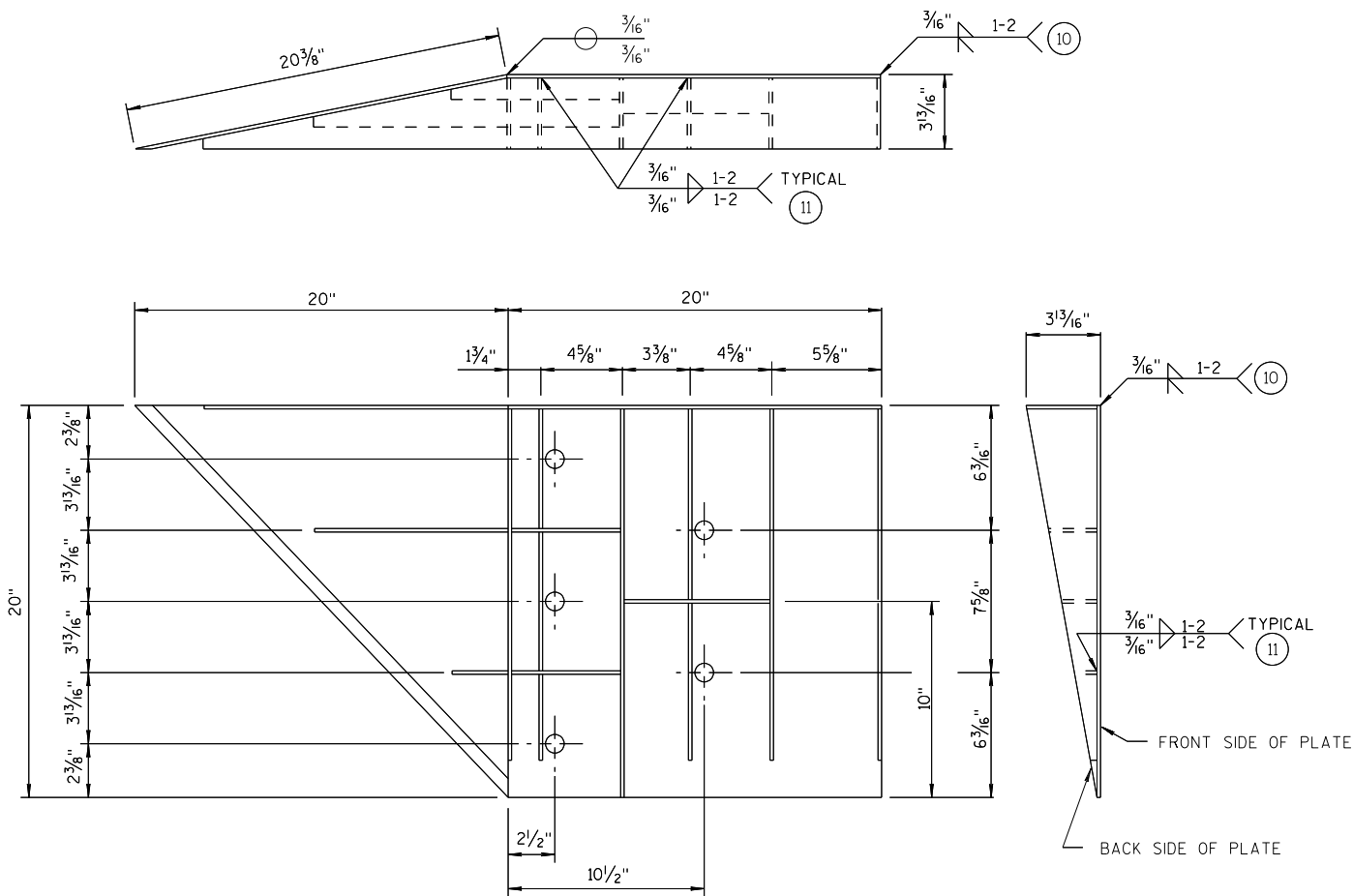
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
07/2018 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR



WELDING INSTRUCTION  
(VIEWED FROM BACK SIDE OF PLATE)

| CONNECTOR PLATE DIMENSION<br>(PER ASSEMBLY) |          |       |                                     |           |
|---------------------------------------------|----------|-------|-------------------------------------|-----------|
| PLATE                                       | QUANTITY | SHAPE | SIZE (A x B x C x D)                | THICKNESS |
| P1                                          | 1        |       | 20" x 20"                           | 3/16"     |
| P2                                          | 1        |       | 20" x 20" x 28 3/16"                | 3/16"     |
| P3                                          | 1        |       | 39" x 3 5/8" x 20" x 19 5/16"       | 3/16"     |
| S1                                          | 4        |       | 18 7/16" x 3 5/8" x 18 3/4"         | 1/4"      |
| S2                                          | 1        |       | 10 1/4" x 2 1/16" x 10 3/8" x 1/2"  | 1/4"      |
| S3                                          | 1        |       | 3" x 1 1/16" x 3 3/8" x 1/2"        | 1/4"      |
| S4                                          | 1        |       | 6 1/8" x 2 7/16"                    | 1/4"      |
| S5                                          | 1        |       | 6 1/8" x 1 1/16"                    | 1/4"      |
| S6                                          | 1        |       | 7 3/4" x 1 3/4"                     | 1/4"      |
| S7                                          | 1        |       | 2 3/16" x 6" x 3 5/8" x 5 7/8"      | 1/4"      |
| S8                                          | 1        |       | 1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"  | 1/4"      |
| S9                                          | 1        |       | 6 1/16" x 6 3/16" x 1 3/32"         | 1/4"      |
| S10                                         | 1        |       | 1 7/8" x 9 7/8" x 3 5/8" x 9 11/16" | 1/4"      |
| S11                                         | 1        |       | 8 1/2" x 8 3/4" x 1 3/16"           | 1/4"      |

SINGLE SLOPE CONNECTION PLATE

GENERAL NOTES

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 10 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:  
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 11 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:  
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

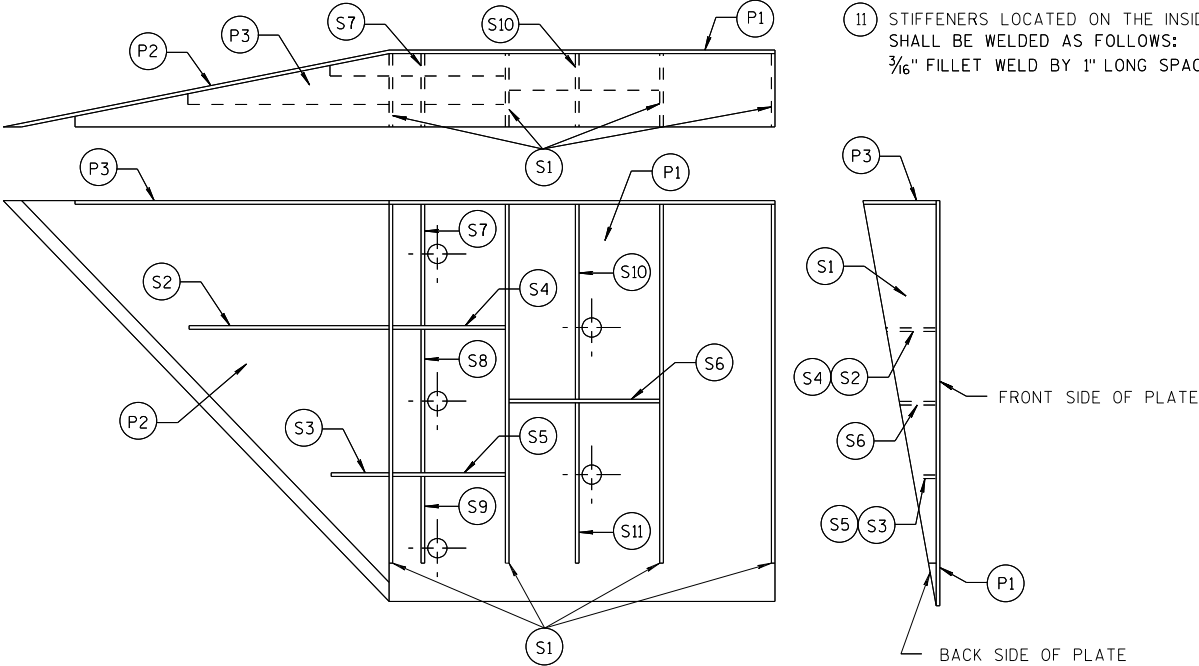


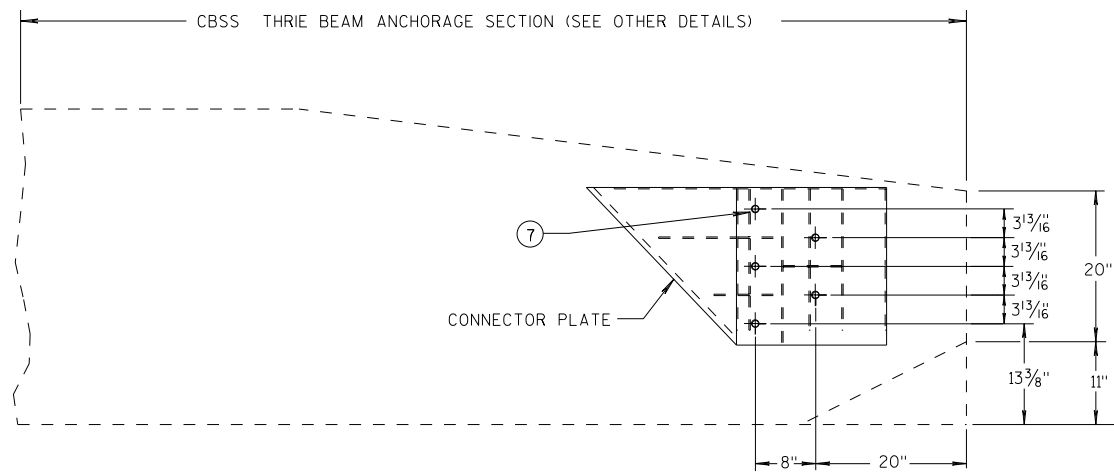
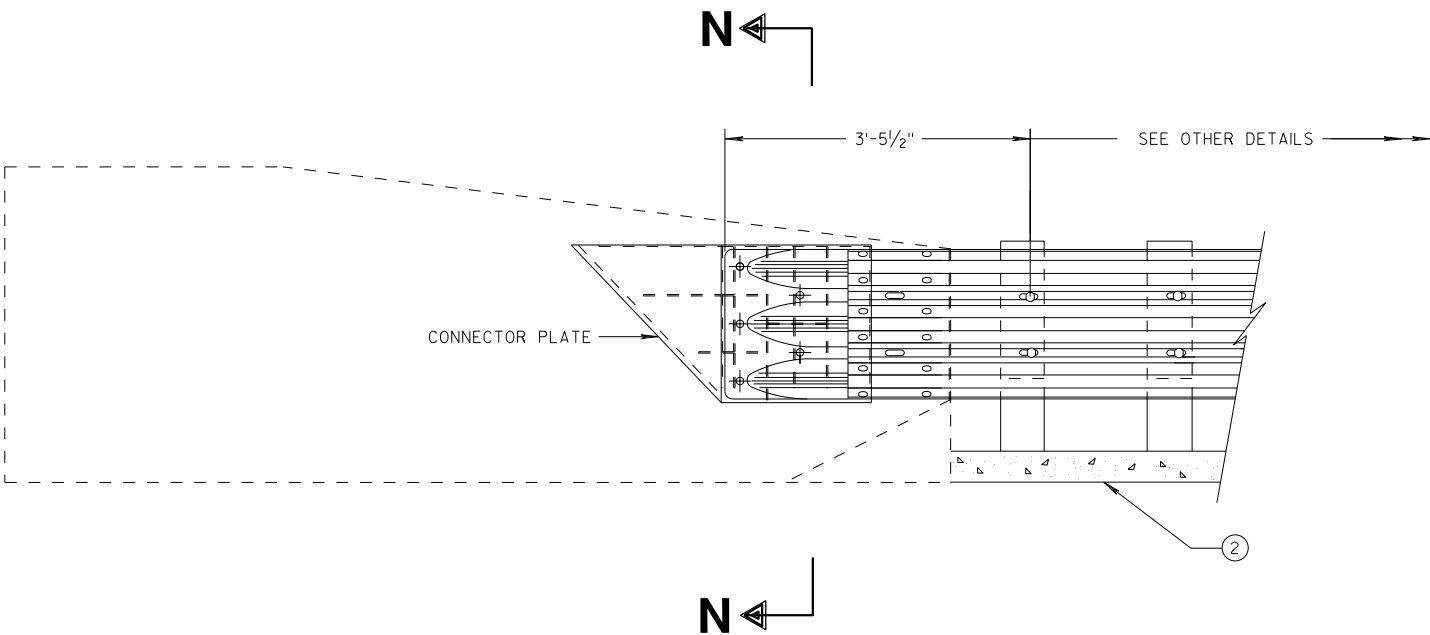
PLATE AND STIFFENER IDENTIFICATION  
(VIEWED FROM BACK SIDE OF PLATE)

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
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DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



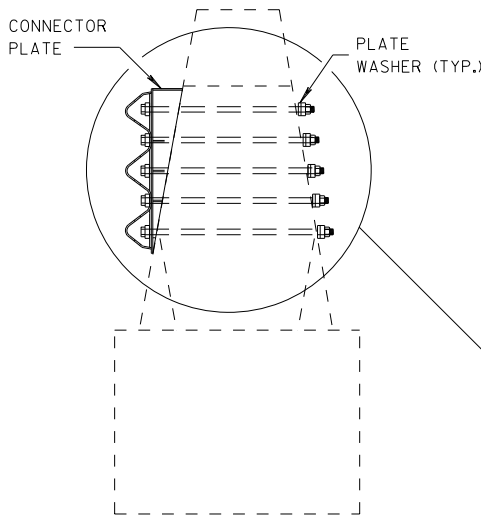
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

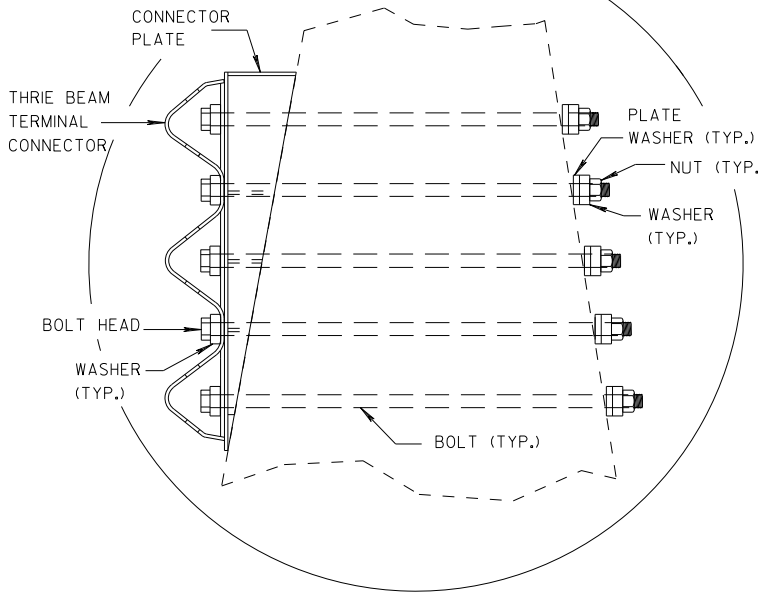
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SECTION N-N



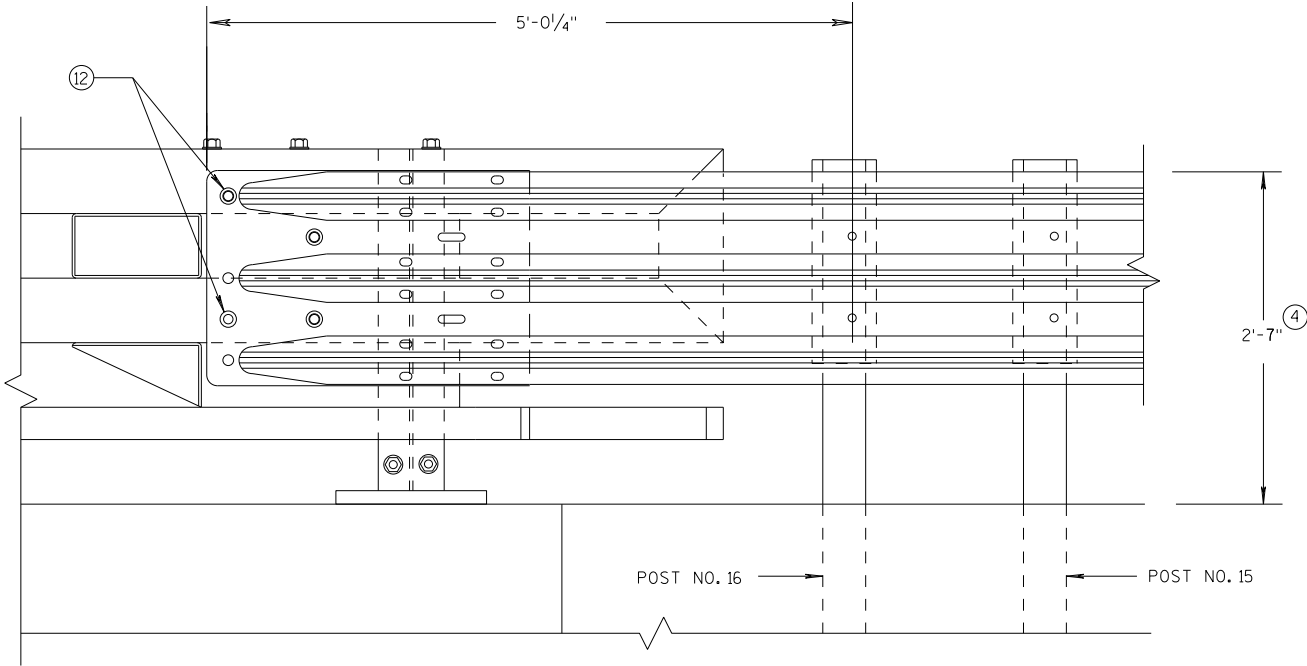
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

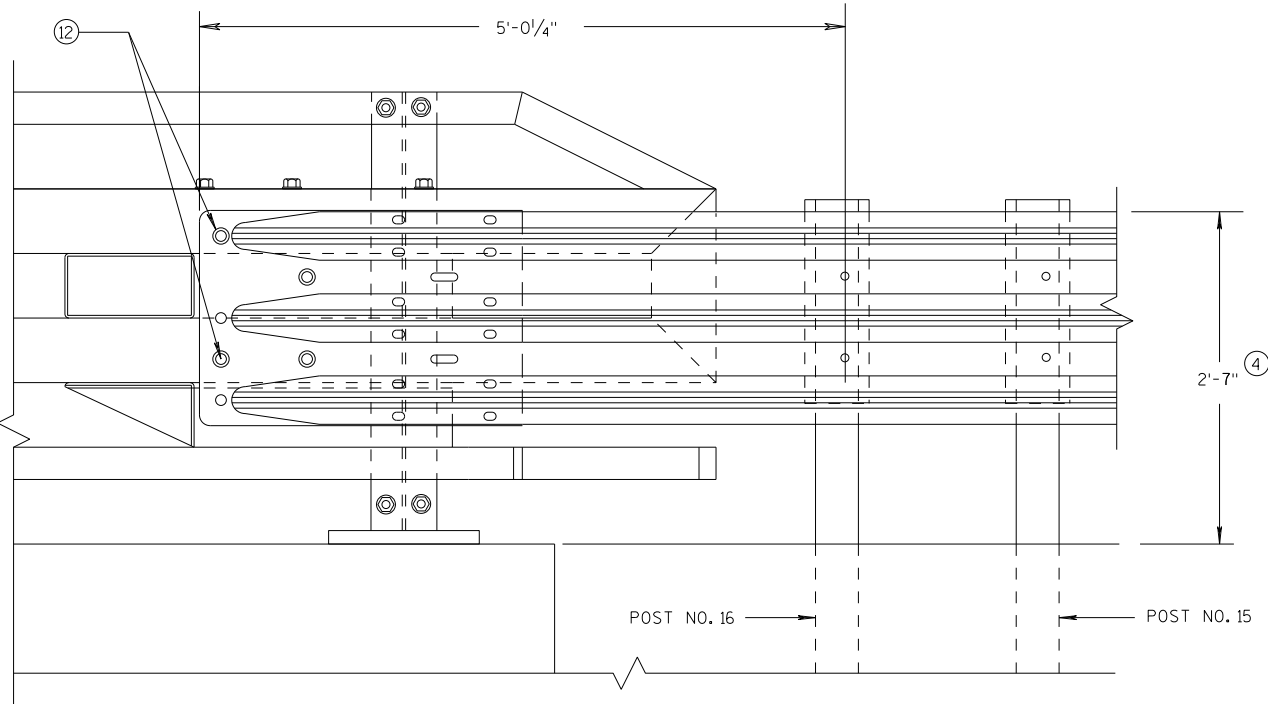
APPROVED  
7/2018  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND  $\frac{1}{2}$ -INCH BEYOND NUT.



ELEVATION OF DETAIL AT NY3 END POST  
THRIE BEAM RAIL ATTACHMENT

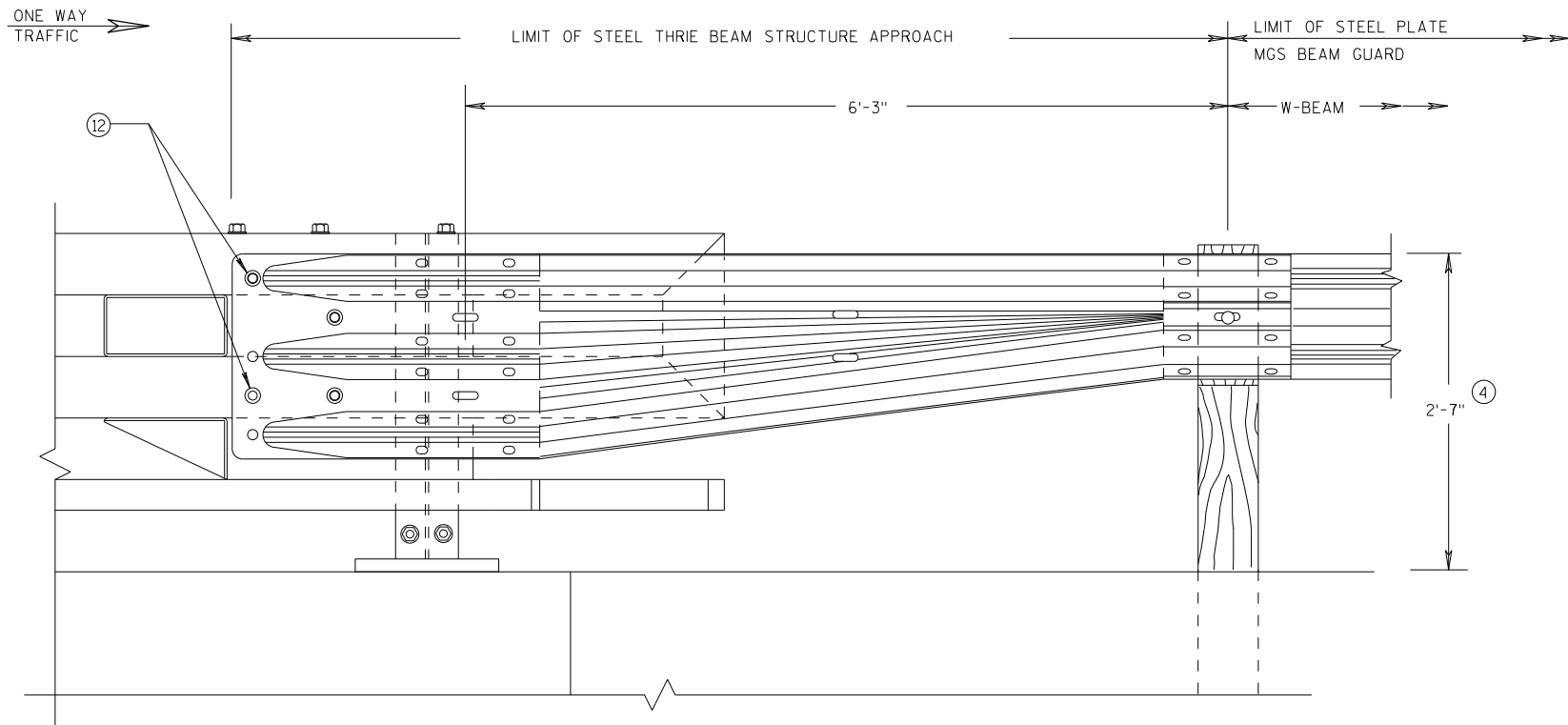


ELEVATION OF DETAIL AT NY4 END POST  
THRIE BEAM RAIL ATTACHMENT

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

|          |                               |
|----------|-------------------------------|
| APPROVED | /S/ Rodney Taylor             |
| 7/2018   | ROADWAY STANDARDS DEVELOPMENT |
| DATE     | UNIT SUPERVISOR               |
| FHWA     |                               |



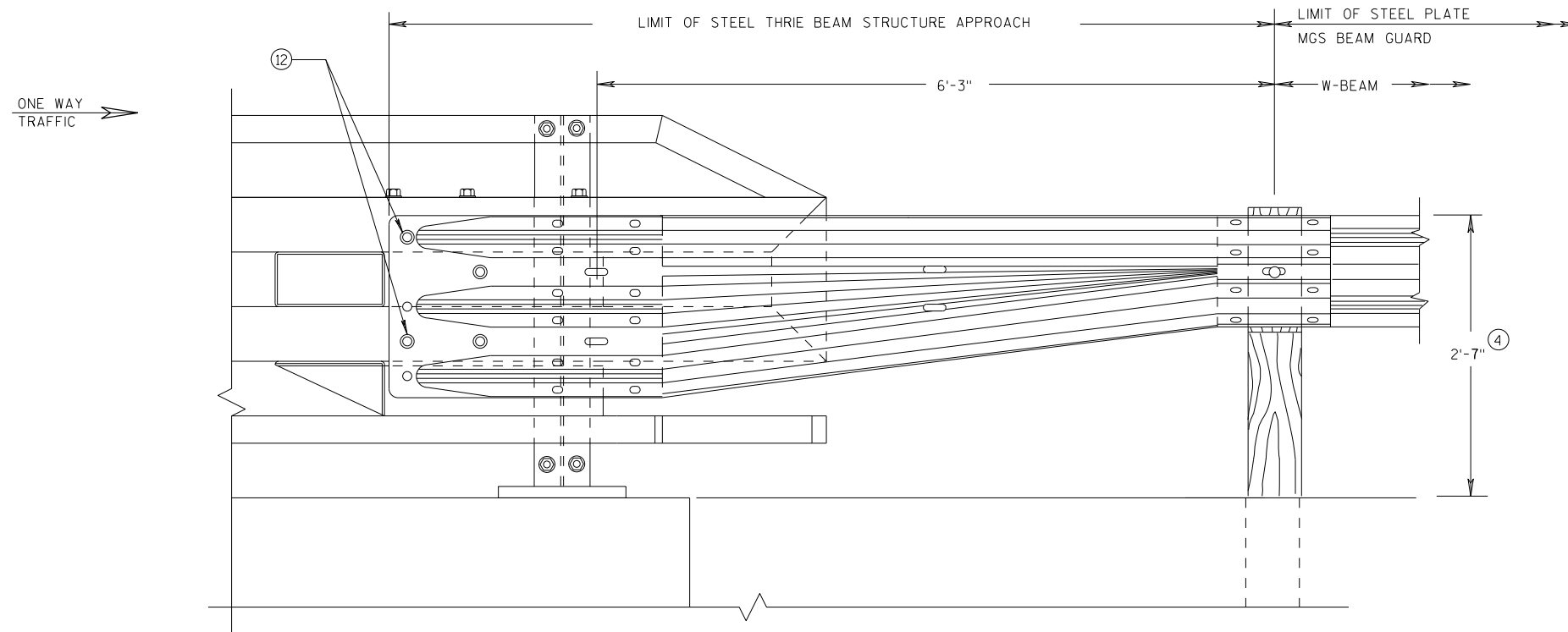
## GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND  $\frac{1}{2}$ -INCH BEYOND NUT.

FRONT VIEW

### W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3" (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



FRONT VIEW

### W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4" (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018

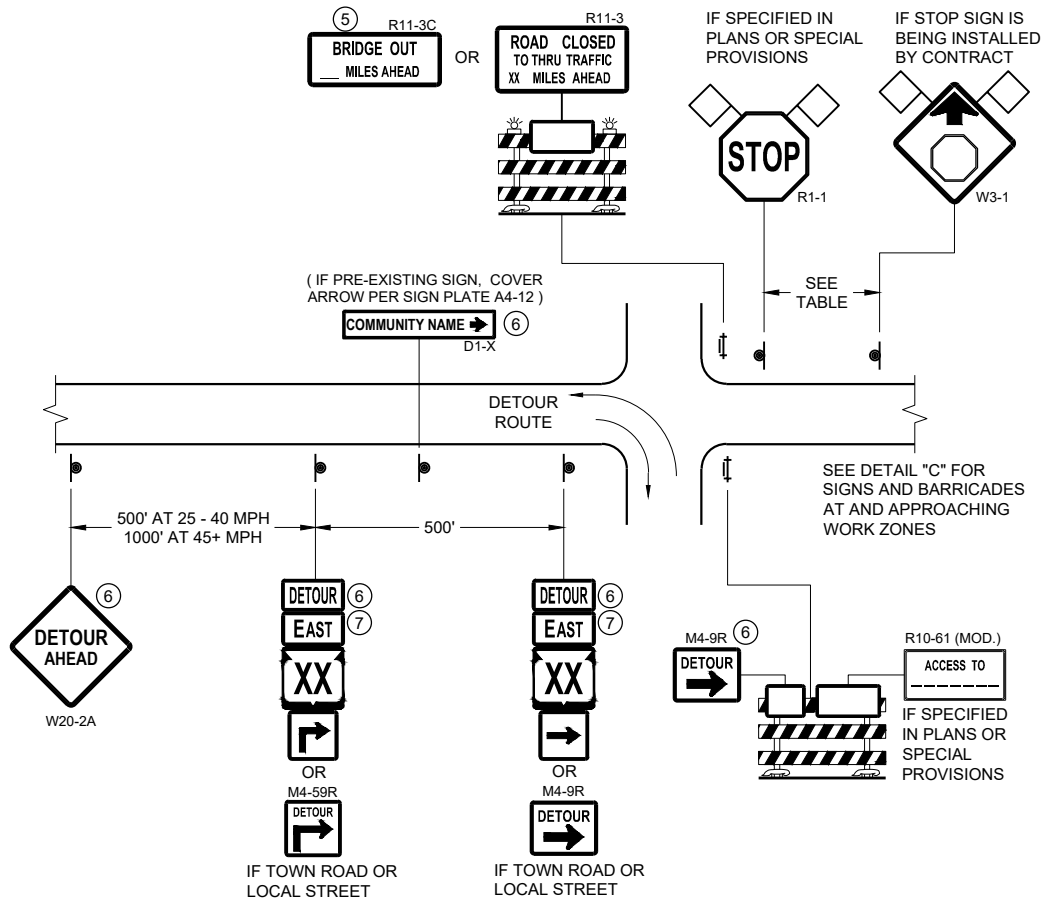
DATE

FHWA

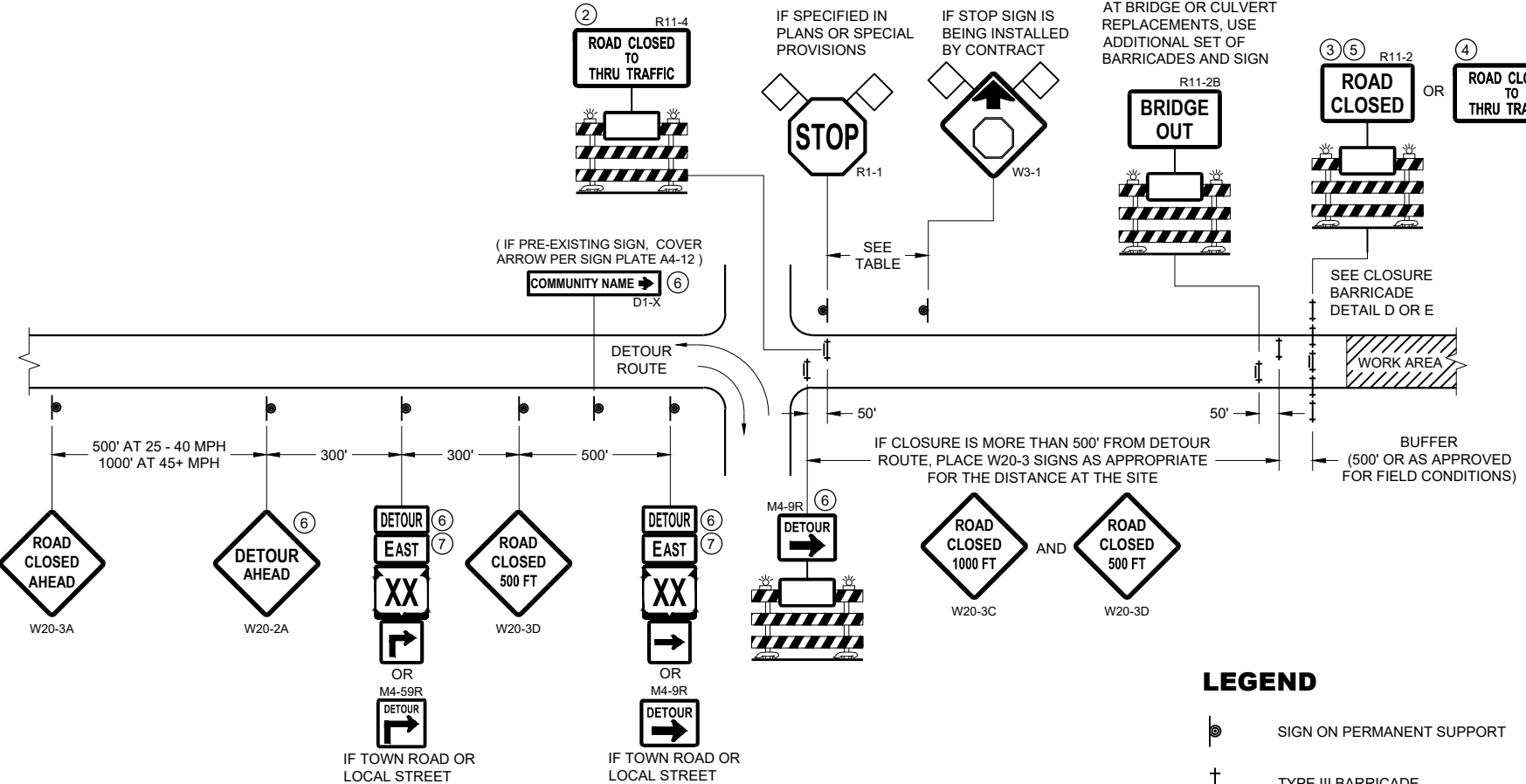
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR



**DETAIL A**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )



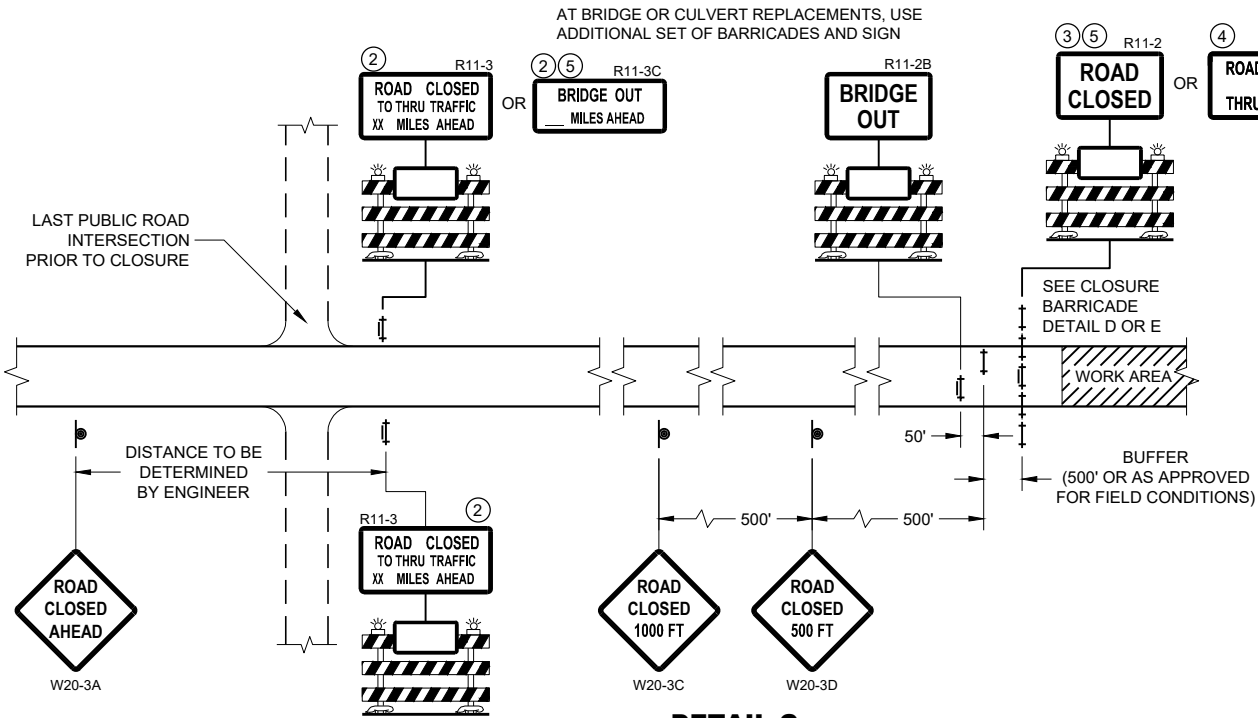
**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE LESS THAN ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

- LEGEND**
- SIGN ON PERMANENT SUPPORT
  - TYPE III BARRICADE
  - TYPE III BARRICADE WITH ATTACHED SIGN
  - TYPE "A" WARNING LIGHT (FLASHING)
  - WORK AREA
  - FLAGS, 16" X 16" MIN. (ORANGE)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- OR M05 - 1 OR M06 - 1

| SPEED LIMIT (MPH) | "STOP AHEAD" ADVANCE WARNING DISTANCE (FT) |
|-------------------|--------------------------------------------|
| 25                | 200                                        |
| 30                | 200                                        |
| 35                | 350                                        |
| 40                | 350                                        |
| 45                | 500                                        |
| 50                | 550                                        |
| 55                | 750                                        |

SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦



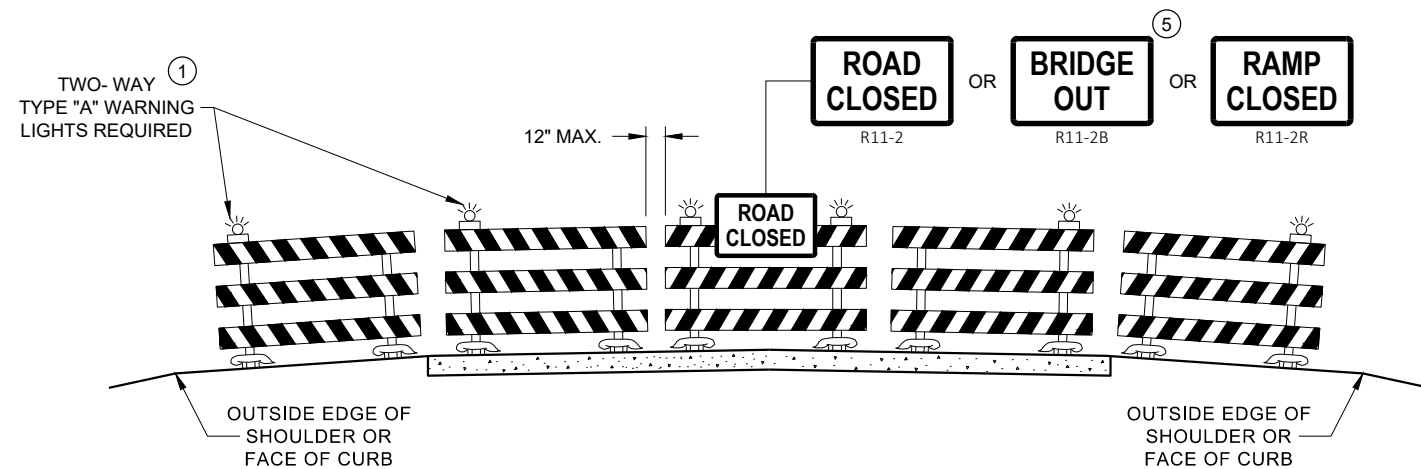
**DETAIL C**  
**MAINLINE CLOSURE, NO POSTED DETOUR**

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

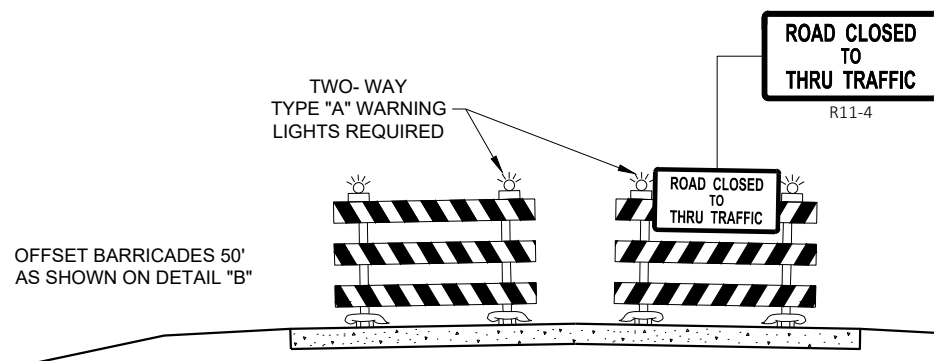
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



**DETAIL D**  
**ROAD CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**



**DETAIL E**  
**LANE CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

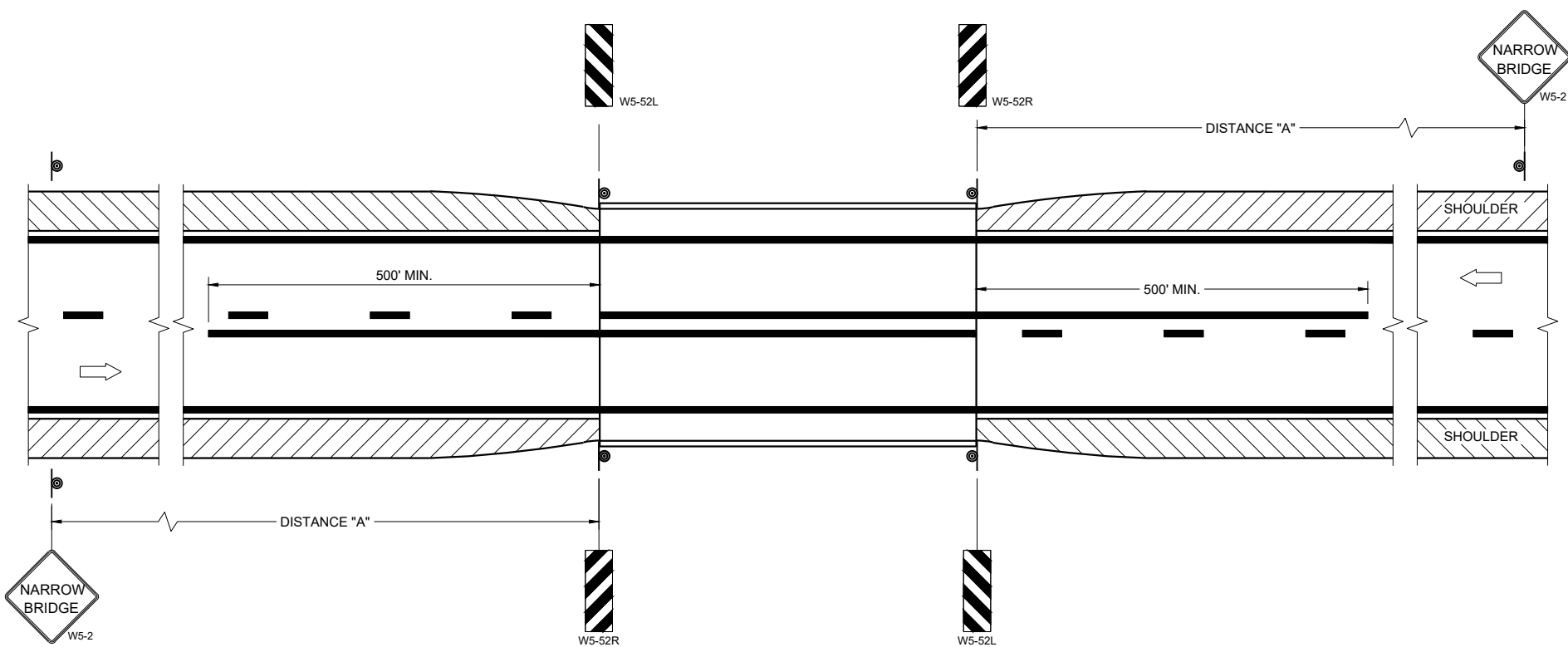
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

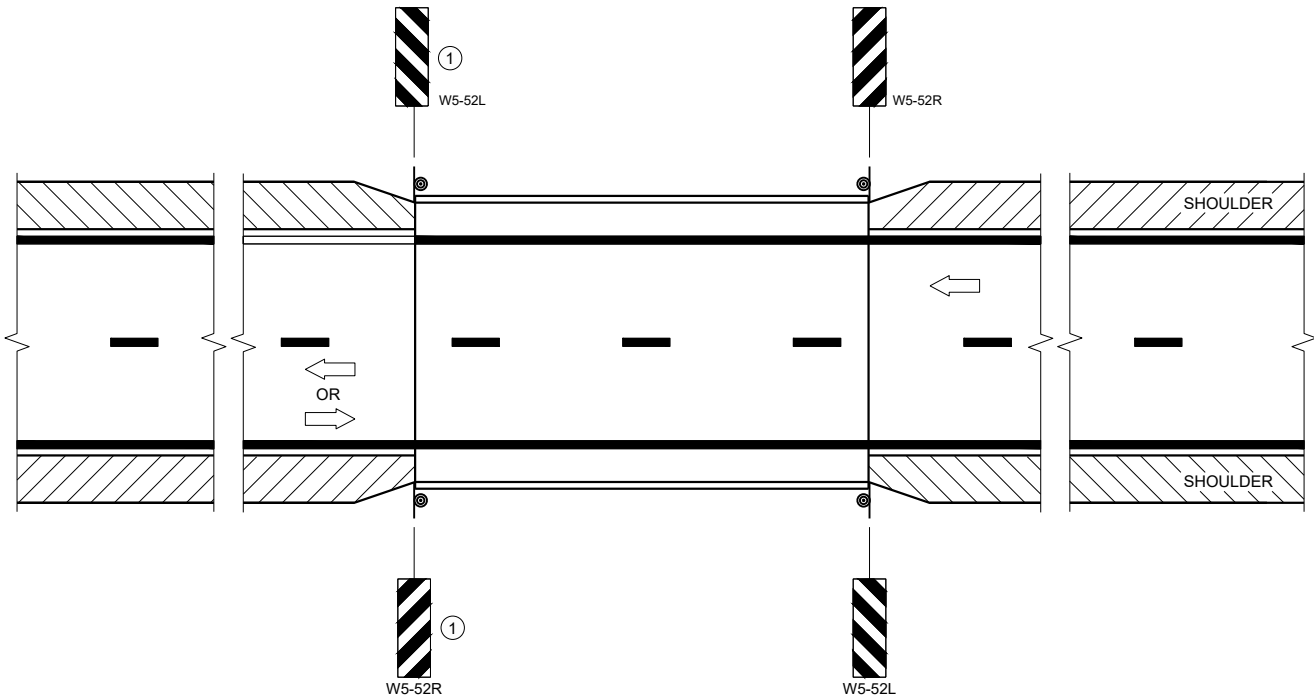
## BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA



**SITUATION 1**  
WARRANTING CRITERIA:  
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



**SITUATION 2**  
WARRANTING CRITERIA:  
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND  
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

**GENERAL NOTES**

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

**DISTANCE TABLE**

| POSTED OR 85TH PERCENTILE SPEED | DISTANCE "A" |
|---------------------------------|--------------|
| 25                              | 150'         |
| 30                              | 200'         |
| 35                              | 250'         |
| 40                              | 300'         |
| 45                              | 400'         |
| 50                              | 550'         |
| 55                              | 700'         |

**SIGNING AND MARKING  
FOR TWO LANE BRIDGES**

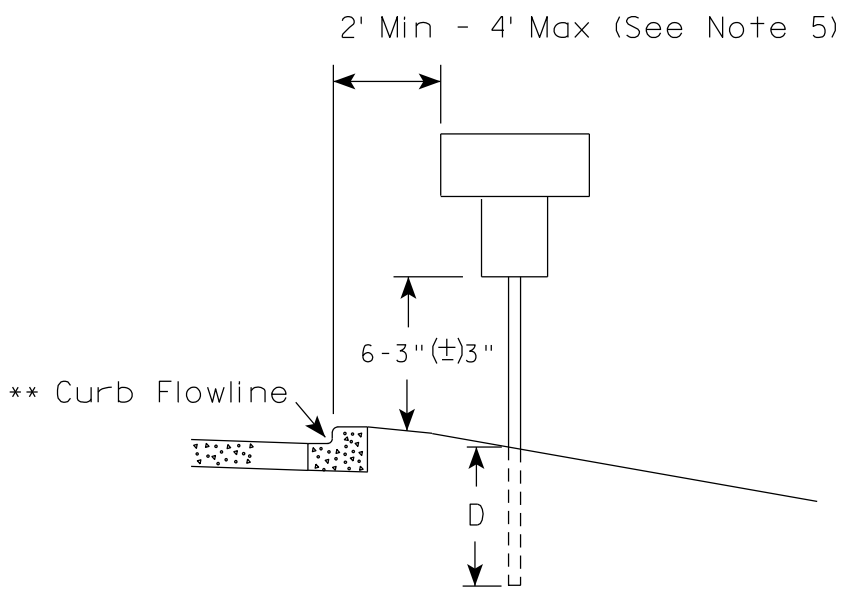
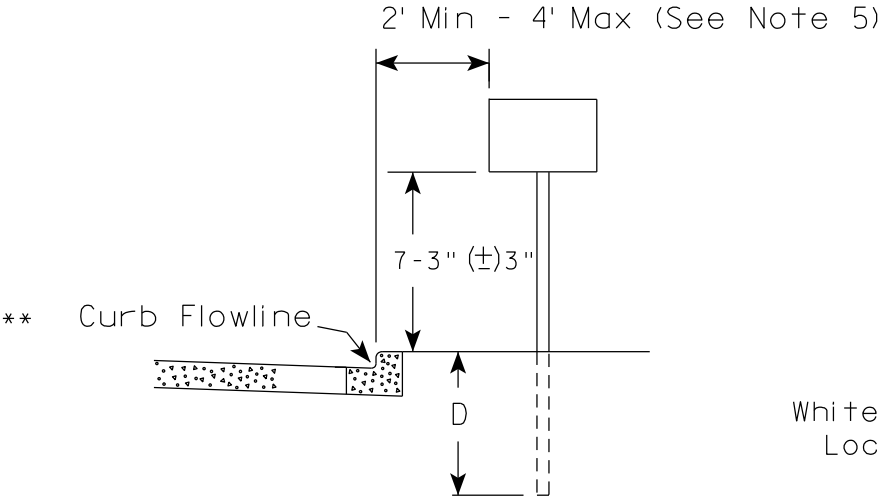
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Jeannie Silver  
DATE Statewide Pavement Marking Engineer  
FHWA

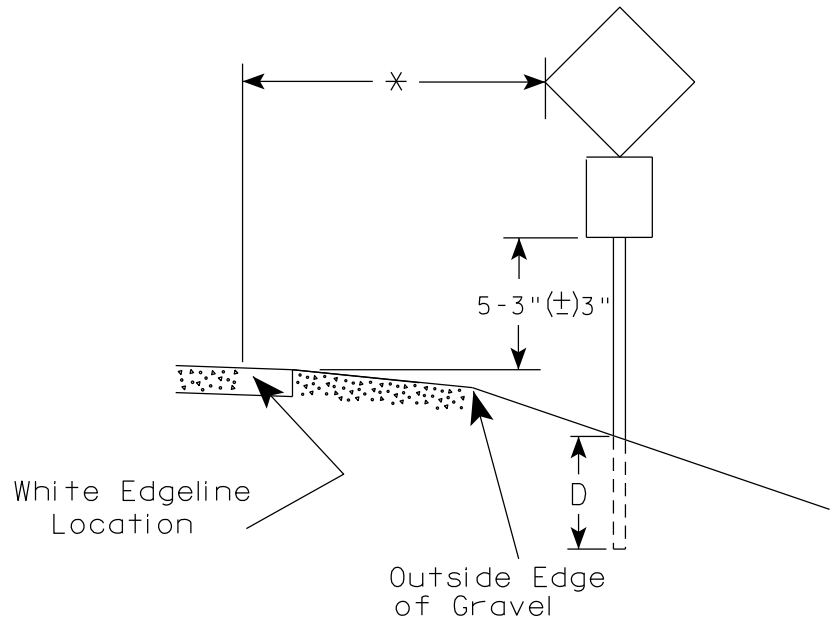
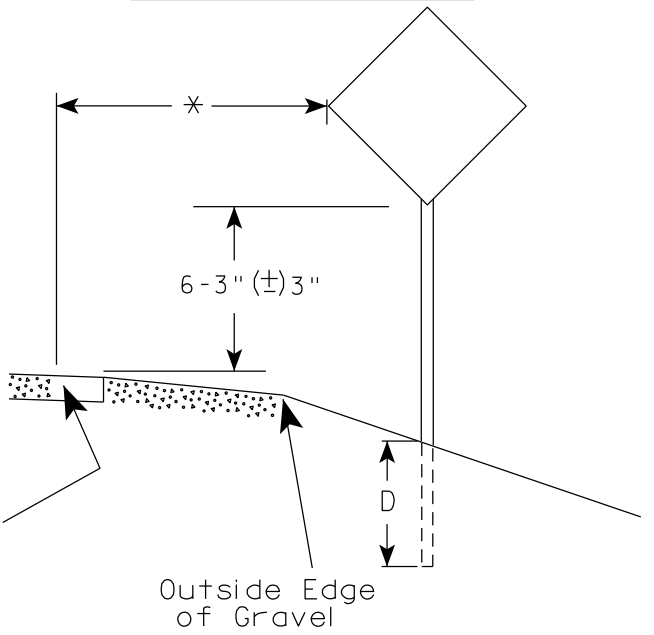


 "T" MARKING  
 SIGN ON PERMANENT SUPPORT  
 DIRECTION OF TRAFFIC

URBAN AREA



RURAL AREA (See Note 2)



| POST EMBEDMENT DEPTH                  |           |
|---------------------------------------|-----------|
| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
| 20 or Less                            | 4'        |
| Greater than 20                       | 5'        |

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

\* \* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

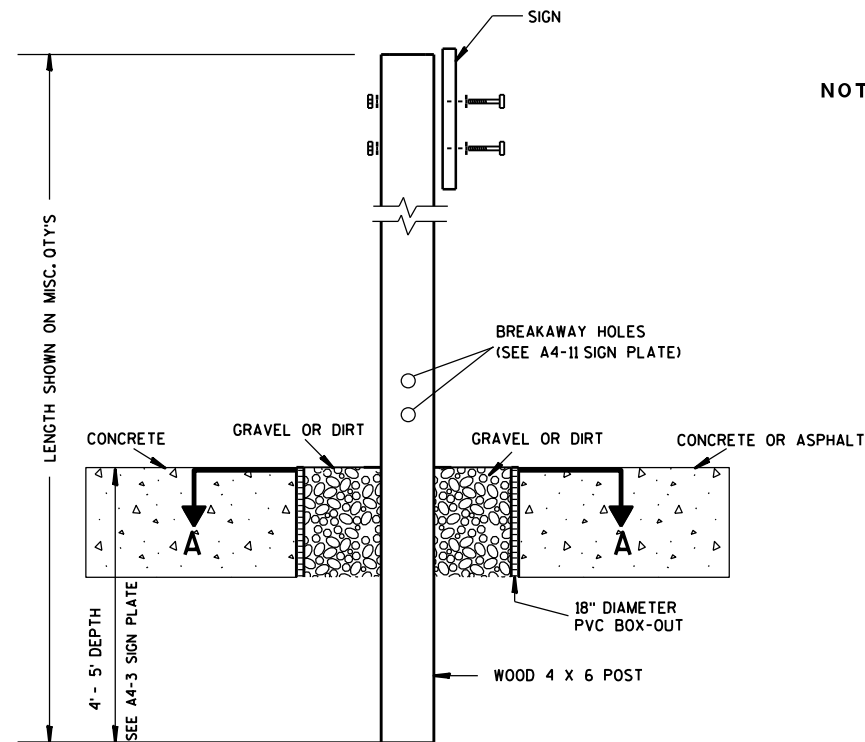
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED   
for State Traffic Engineer

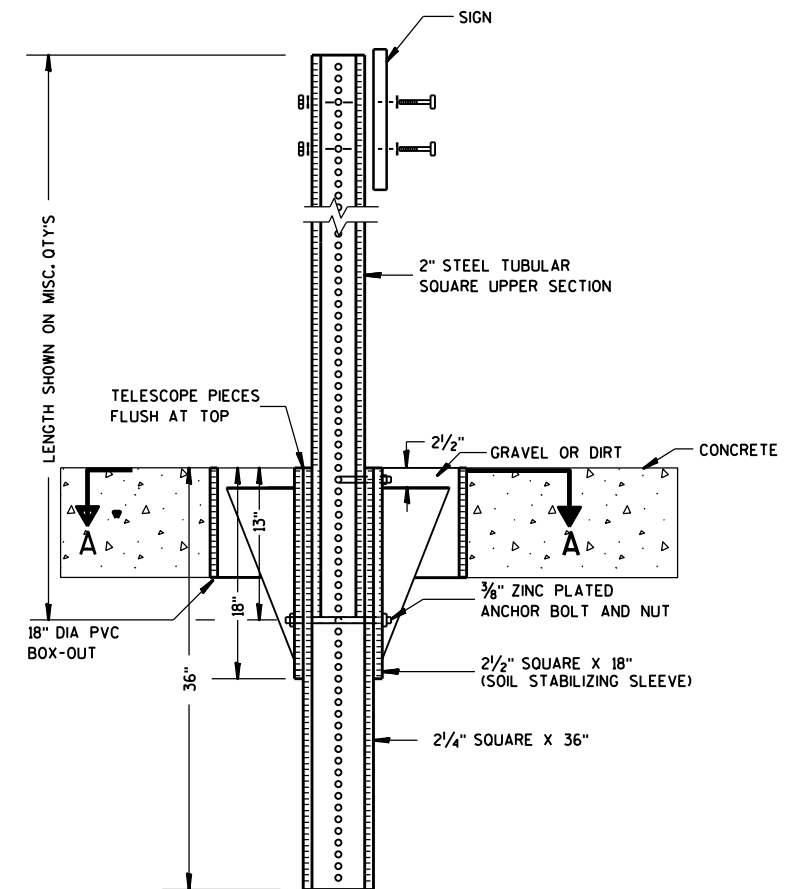
DATE 12/6/23 PLATE NO. A4-3.23



### ELEVATION VIEW

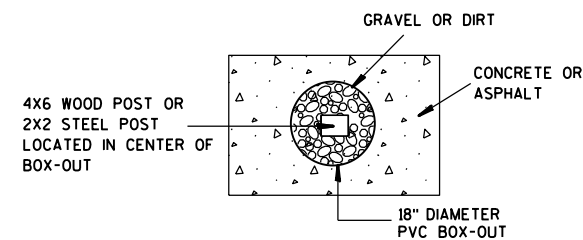
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



### ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



### PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST  
BOX-OUTS  
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:

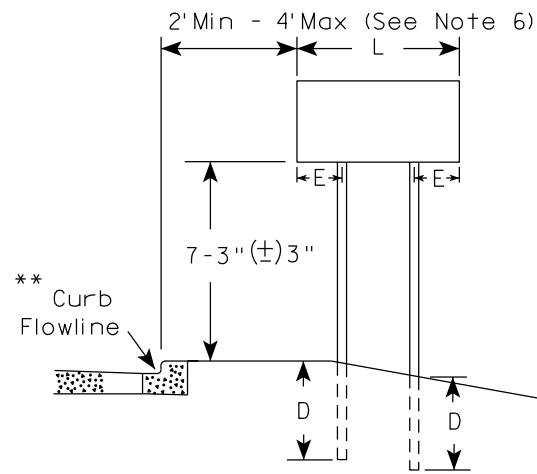
HWY:

COUNTY:

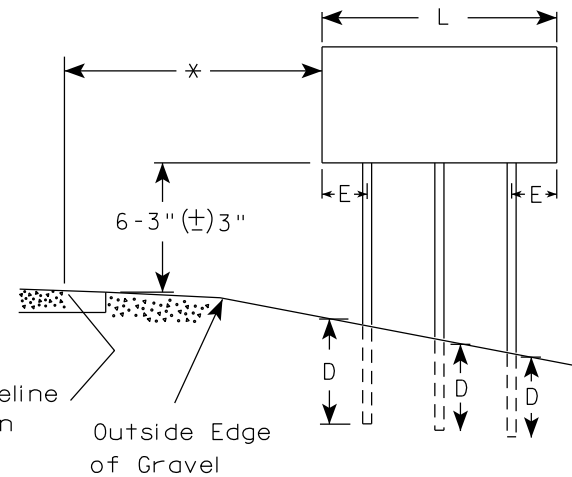
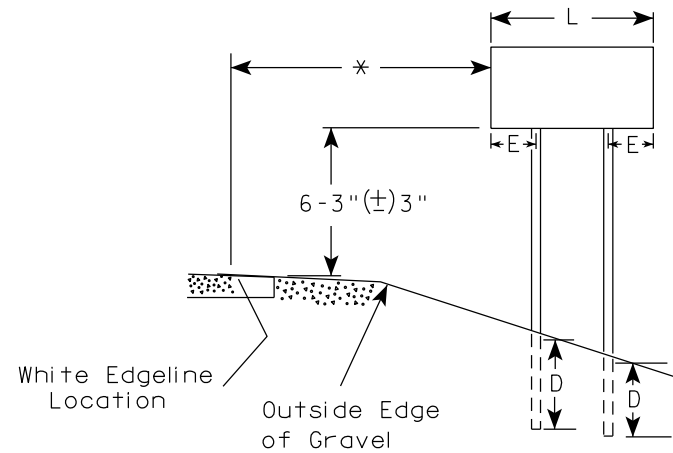
SHEET NO:

E

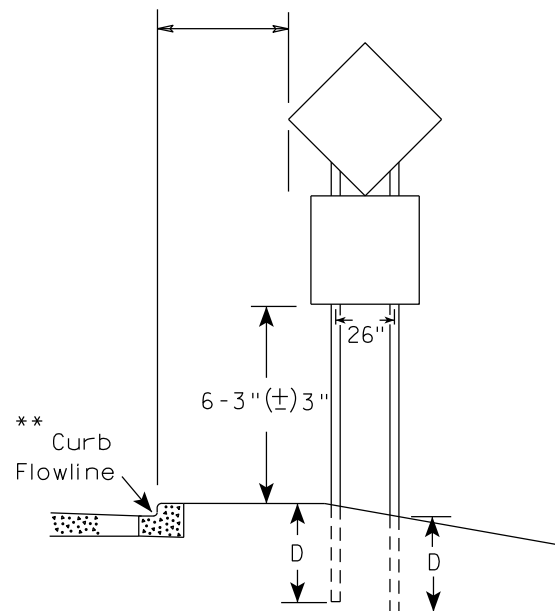
URBAN AREA



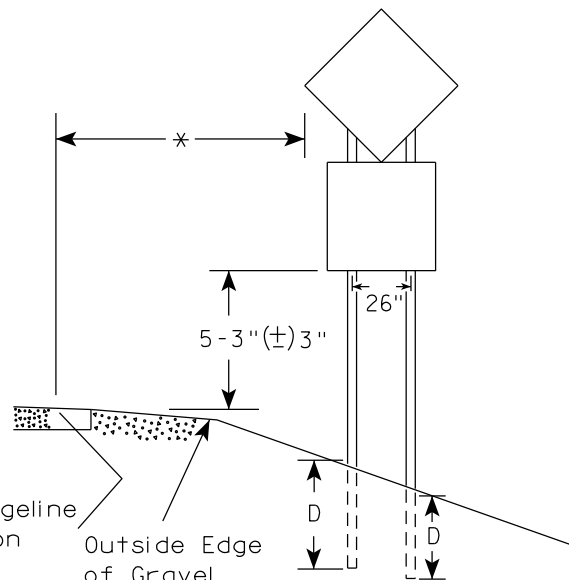
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\*\*\*

| SIGN SHAPE OTHER THAN DIAMOND<br>(TWO POSTS REQUIRED) |     |
|-------------------------------------------------------|-----|
| L                                                     | E   |
| Greater than 48"<br>Less than 60"                     | 12" |
| 60" to 108"                                           | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND<br>(THREE POSTS REQUIRED) |     |
|---------------------------------------------------------|-----|
| L                                                       | E   |
| Greater than 108"<br>to 144"                            | 12" |

POST EMBEDMENT DEPTH

| Area of Sign<br>Installation<br>( Sq.Ft. ) | D<br>( Min ) |
|--------------------------------------------|--------------|
| 20 or Less                                 | 4'           |
| Greater than 20                            | 5'           |

TYPICAL INSTALLATION  
OF TYPE II SIGNS  
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

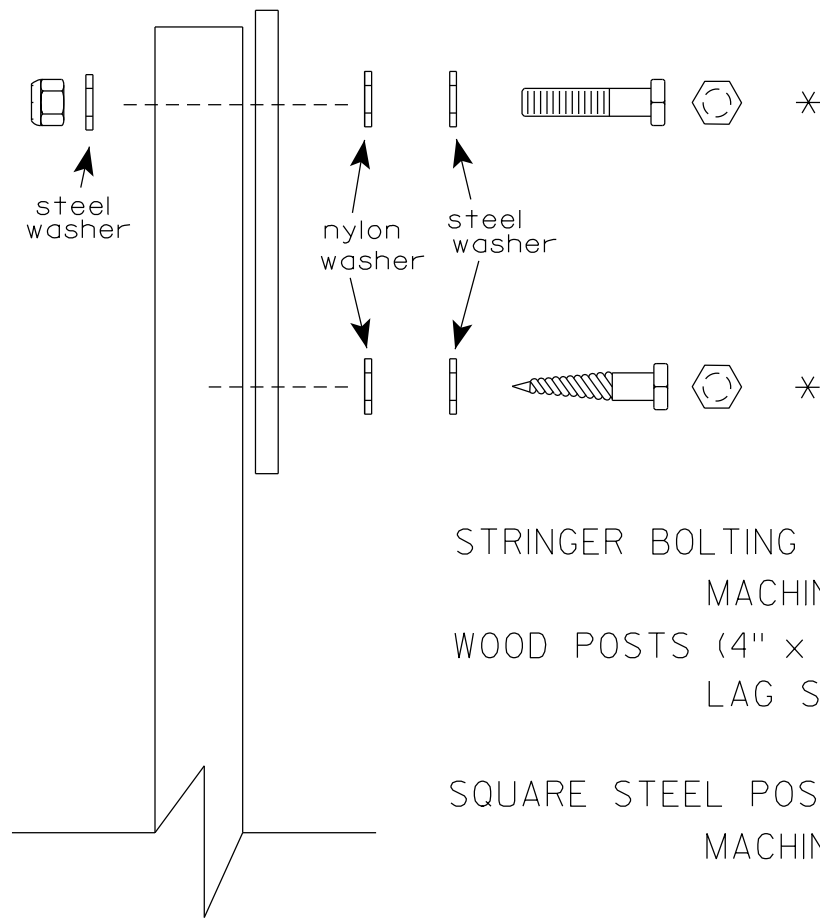
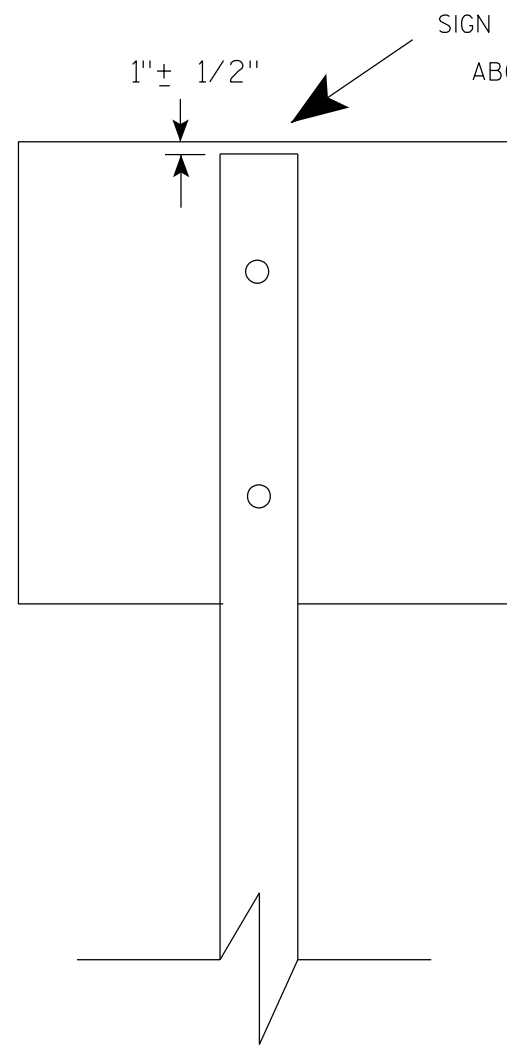
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

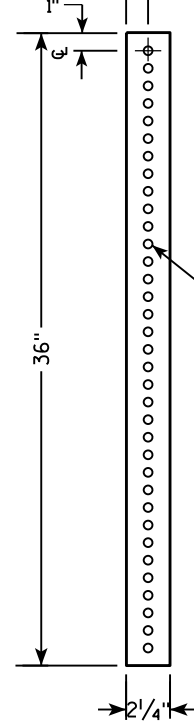
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS -  $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)  
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS -  $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)  
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS -  $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL  
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL
  - 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON

\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS  |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 4/1/2020                    | PLATE NO. A4-8.9                                      |

**2 1/4 " SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH**

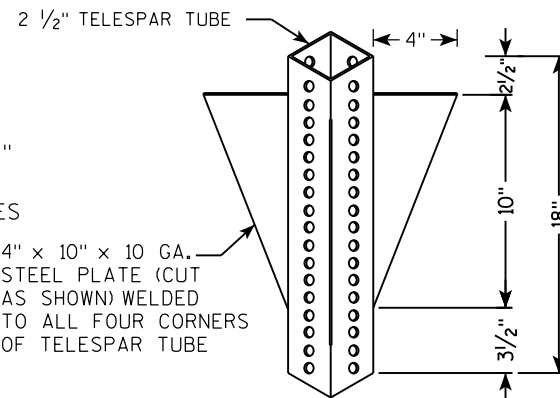
...  $\rightarrow | \leftarrow 1\frac{1}{8}"$



ALL HOLES  $\frac{7}{16}$ "  
SPACED 1" C-C  
ALL FOUR SIDES

4" x 10" x 10 GA. —   
STEEL PLATE (CUT  
AS SHOWN) WELDED  
TO ALL FOUR CORNERS  
OF TELESAR TUBE

**2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S  
 18" DIA SCHEDULE 40 PVC BOX-OUT  
 TELESCOPE PIECES FLUSH AT TOP  
 36"  
 18"  
 13"  
 2 1/2"  
 2 1/4" SQUARE X 36"  
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)  
 3/8" ZINC PLATED ANCHOR BOLT AND NUT  
 2 1/2" GRAVEL OR DIRT  
 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT  
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES  
 2" STEEL TUBULAR SQUARE UPPER SECTION  
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL  
 SIGN

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES  $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

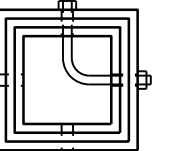
2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

SIGN

3/8" ZINC PLATED CORNER  
ANCHOR BOLT AND NUT



DIRECTION  
OF TRAFFIC

SECTION A-A

| Area of Sign Installation (Sq. Ft.)      | Number of Required Posts |
|------------------------------------------|--------------------------|
| 9 or less                                | 1                        |
| Greater than 9 less than or equal to 18  | 2                        |
| Greater than 18 less than or equal to 27 | 3                        |

TUBULAR STEEL  
SIGN POST  
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

|             |      |         |           |   |
|-------------|------|---------|-----------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E |
|-------------|------|---------|-----------|---|

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A49.DGN

PLOT DATE : 05-FEB-2015 17:09

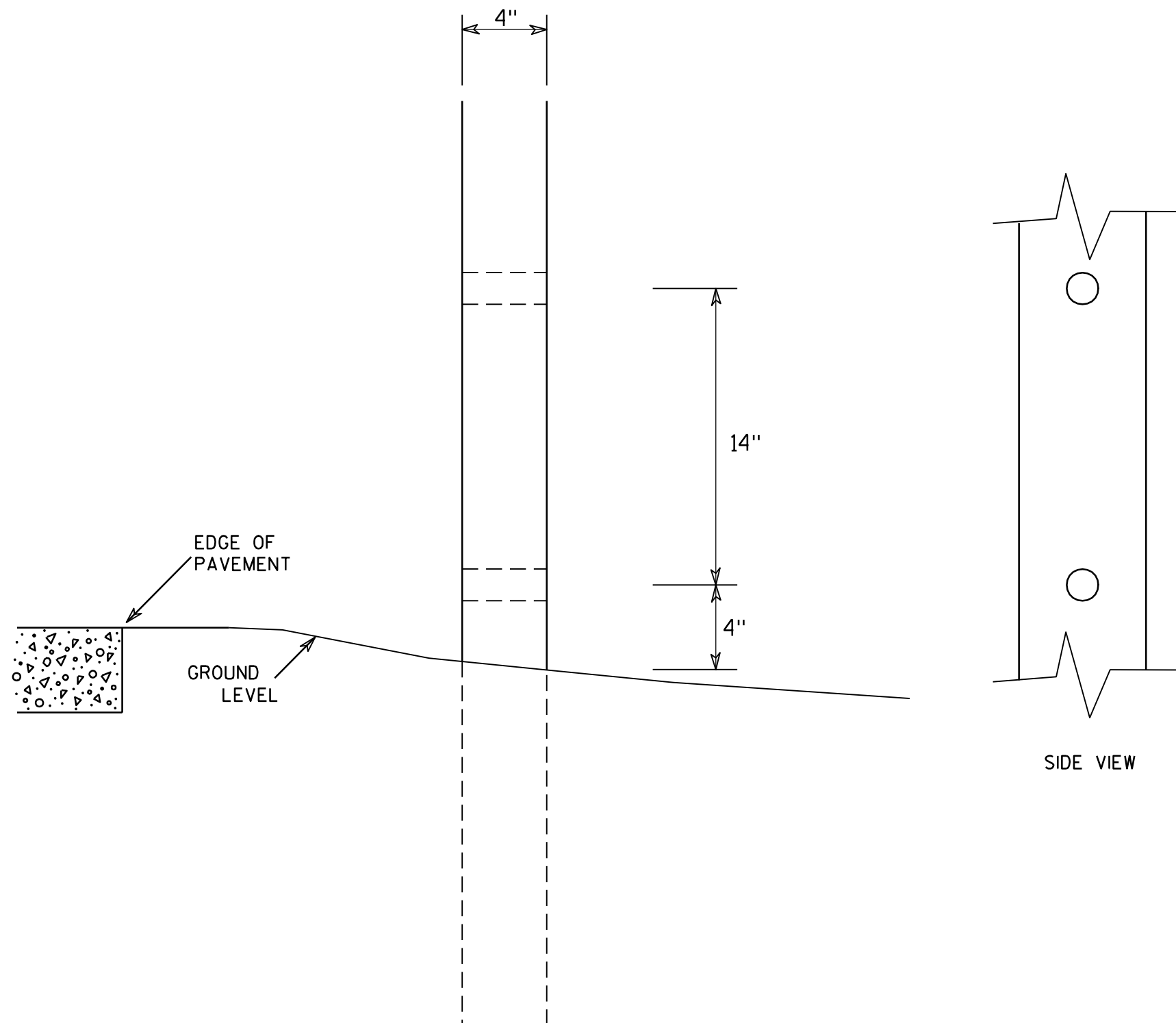
PLOT BY : mscs\_ja

PLOT NAME :

PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42

7



### GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

### 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

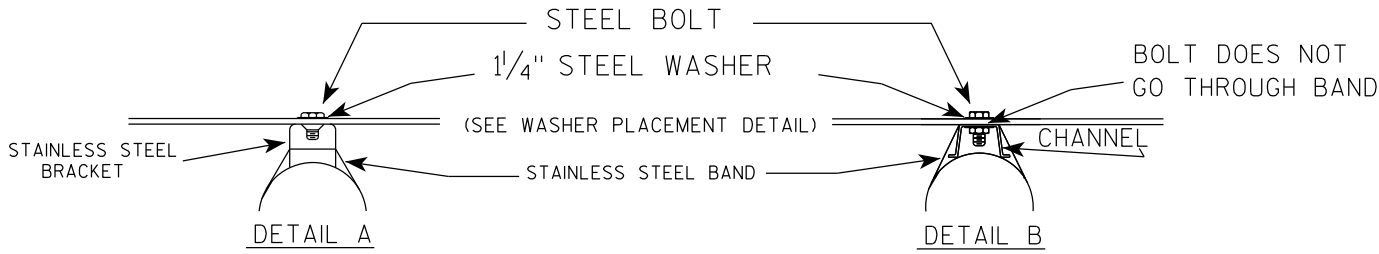
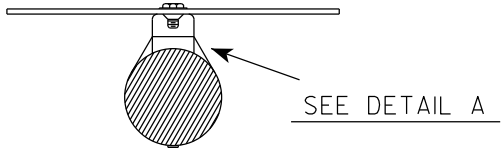
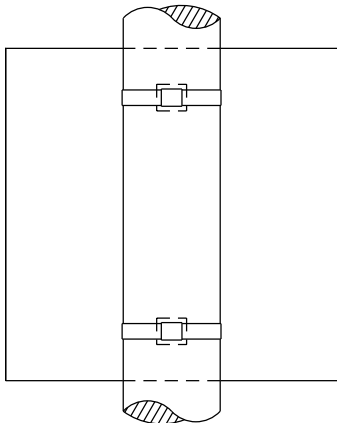
COUNTY:

SHEET NO:

E

BANDING

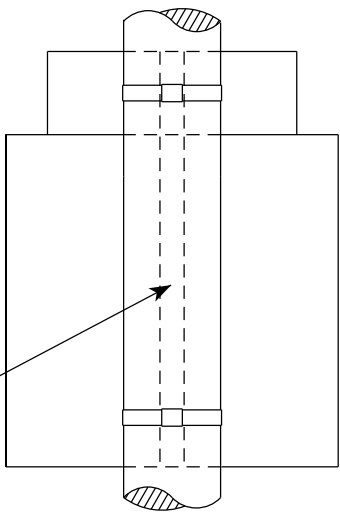
SINGLE SIGN



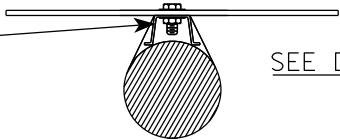
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

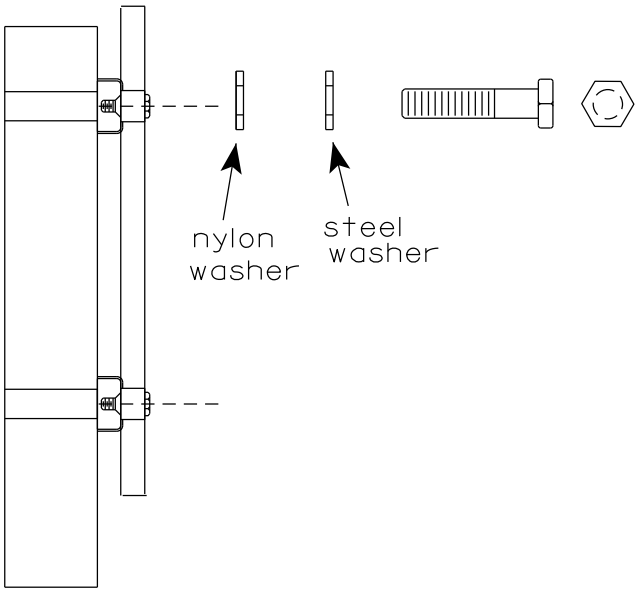
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



WASHER PLACEMENT

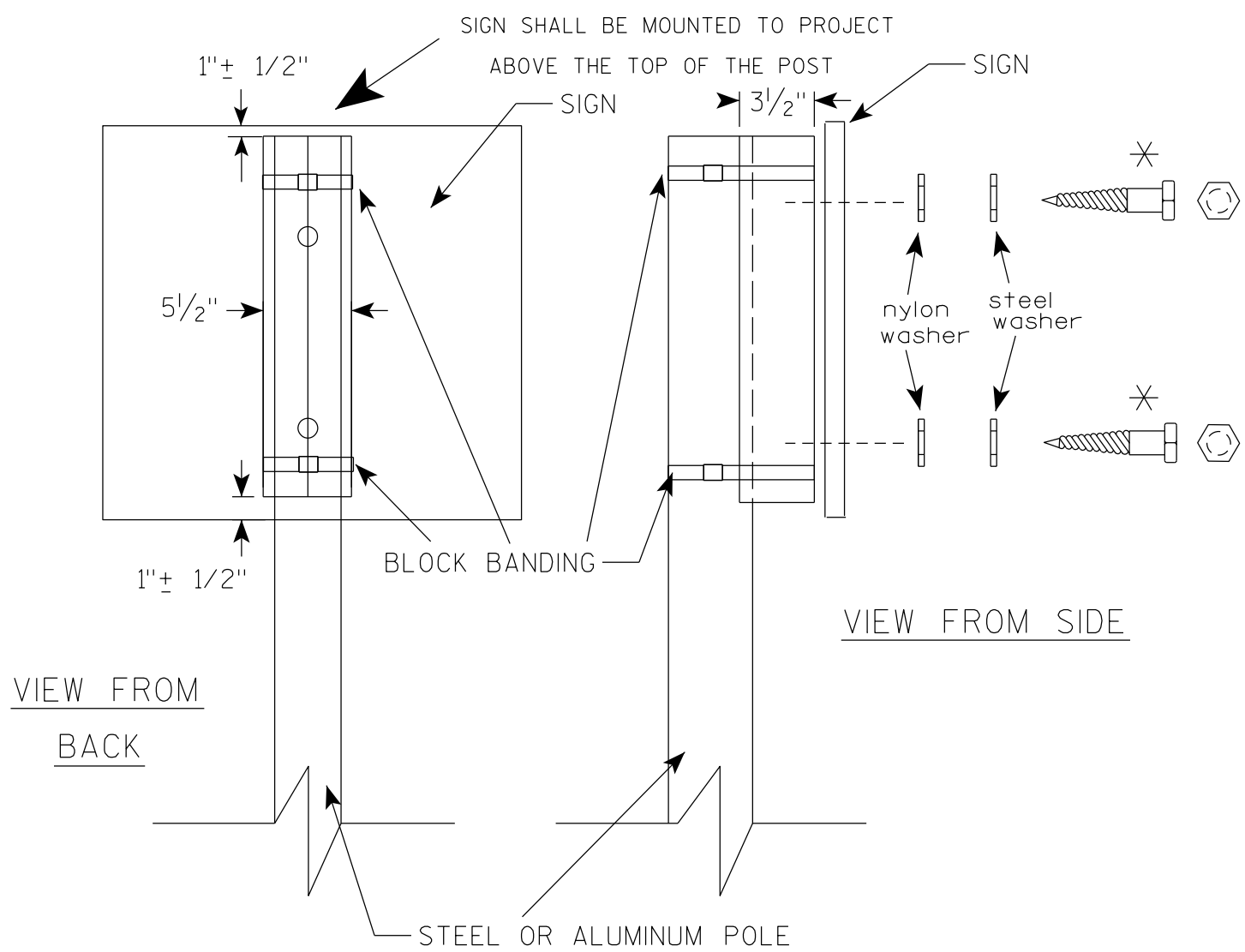


WASHERS (ALL POSTS) -  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

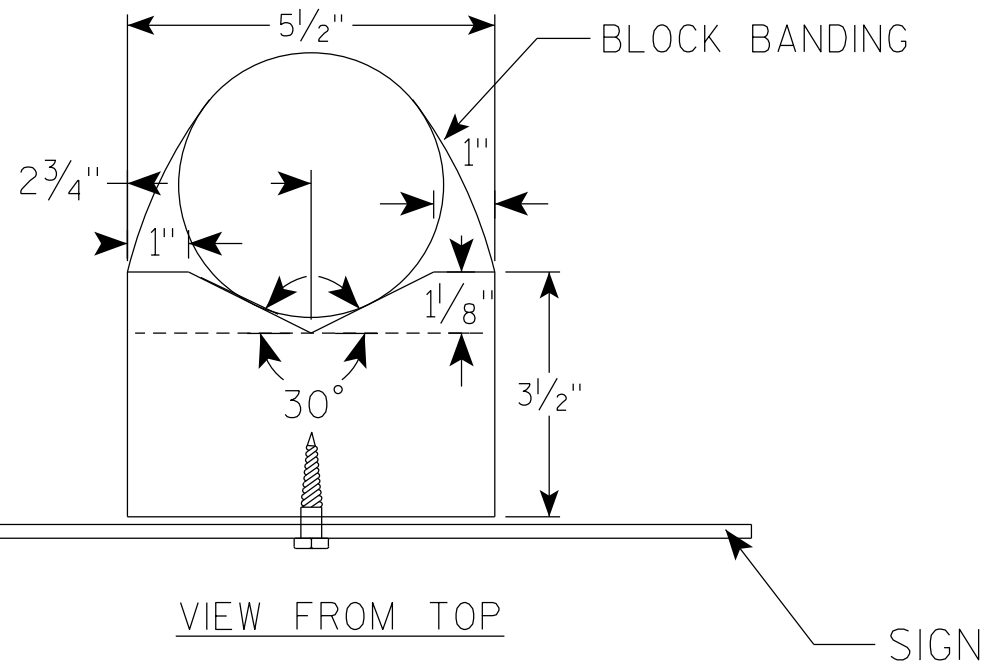
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM  
BACK

VIEW FROM SIDE



VIEW FROM TOP

## GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

BLOCK BANDING DETAIL  
( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

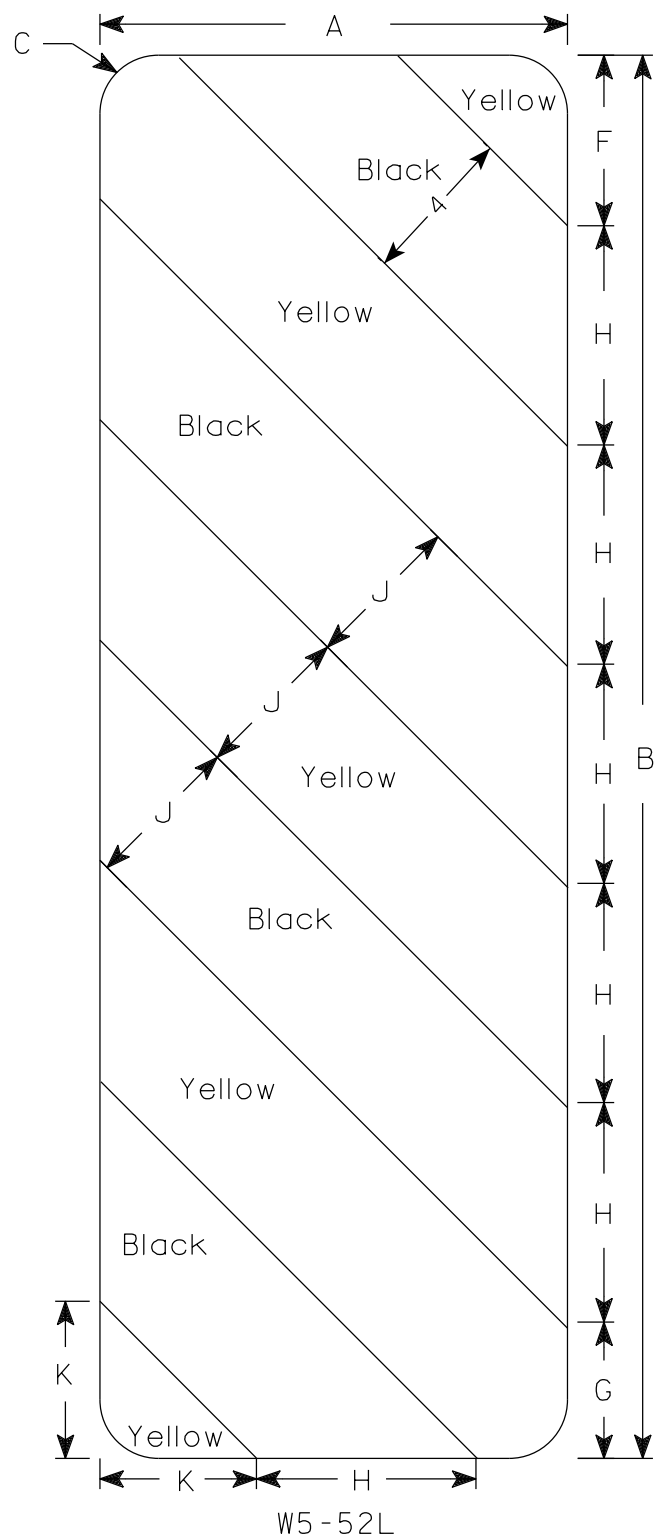
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

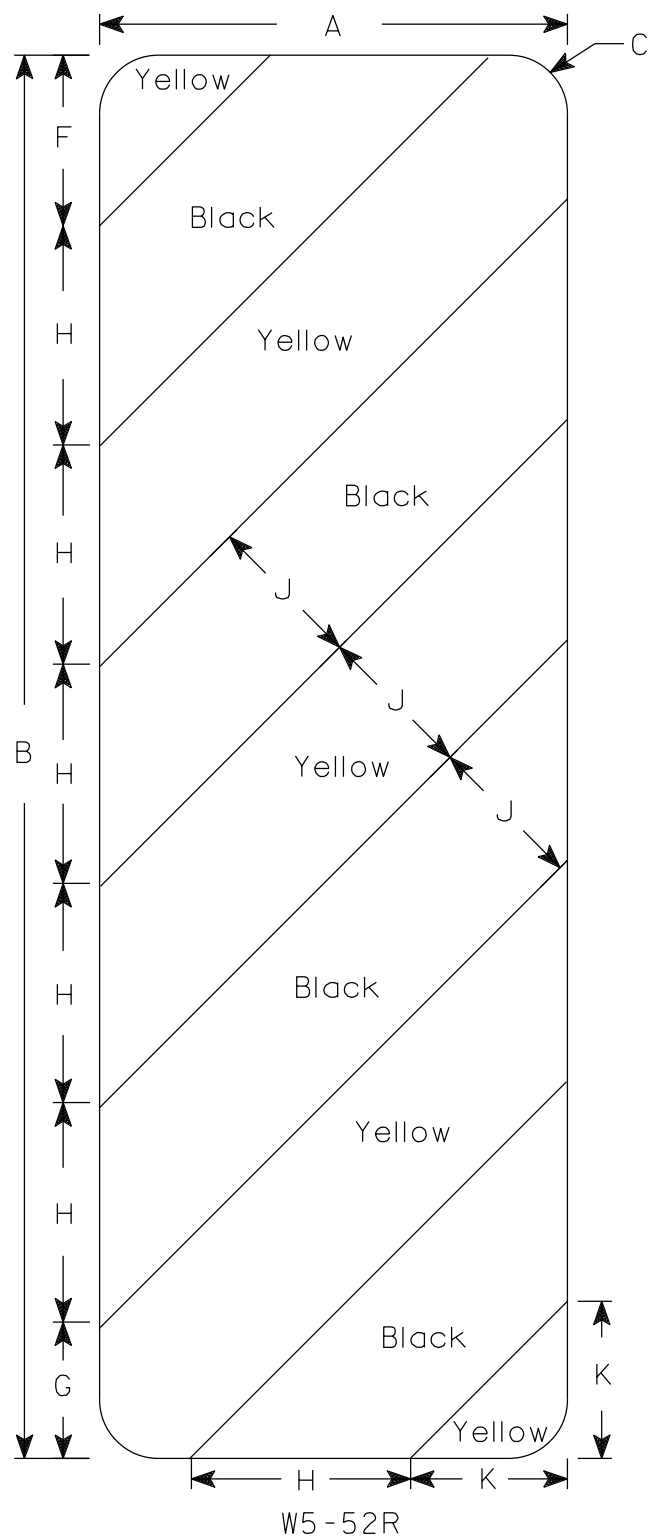
PROJECT NO:

SHEET NO:

**E**



W5-52L



W5-52R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
  - Background - Yellow
  - Message - Black
- 3. Alternate colors of stripes as shown.

| SIZE | A  | B  | C     | D | E | F     | G     | H     | I   | J | K      | L | M | N | O | P | Q | R | S | T | U | v | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|---|---|-------|-------|-------|-----|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 12 | 36 | 1 1/2 |   |   | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 12 | 36 | 1 1/2 |   |   | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 18 | 54 | 1 1/2 |   |   | 6     | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.75            |
| 4    |    |    |       |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10



(X) INDICATES WING NUMBER.

\* MGS THRE BEAM ATTACHMENT.

 AREA TO EXCAVATE INCLUDED IN  
"EXCAVATION FOR STRUCTURES  
BRIDGES B-10-397".

1-01 LIMITS OF RIPRAP  
HEAVY AND  
GEOTEXTILE TYPE HR.  
MEASURED  
PERPENDICULAR TO  
ABUTMENT

## LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & NOTES
3. MISCELLANEOUS DETAILS
4. SUBSURFACE EXPLORATION-1
5. SUBSURFACE EXPLORATION-2
6. SOUTH ABUTMENT
7. NORTH ABUTMENT DETAILS-1
8. NORTH ABUTMENT DETAILS-2
9. NORTH ABUTMENT
10. NORTH ABUTMENT DETAILS-1
11. NORTH ABUTMENT DETAILS-2
12. PIER 1
13. PIER 2
14. PIER 3
15. PIER 4
16. PIER 5
17. PIER 6
18. SUPERSTRUCTURE DETAILS-1
19. SUPERSTRUCTURE DETAILS-2
20. SUPERSTRUCTURE DETAILS-3
21. SUPERSTRUCTURE DETAILS-4
22. SUPERSTRUCTURE DETAILS-5
23. SUPERSTRUCTURE DETAILS-6
24. TUBULAR STEEL RAILING TYPE M



LOOKING WEST  
NORMAL TO SOUTH FORK EAU CLAIRE RIVER

## DESIGN DATA

LIVE LOAD:

|                                             |          |
|---------------------------------------------|----------|
| DESIGN LOADING                              | HL-93    |
| INVENTORY RATING FACTOR                     | 1.10     |
| OPERATING RATING FACTOR                     | 1.42     |
| WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) | 250 KIPS |

STRUCTURE IS DESIGNED FOR A  
FUTURE WEARING SURFACE OF 20 PSF.

## MATERIAL PROPERTIES

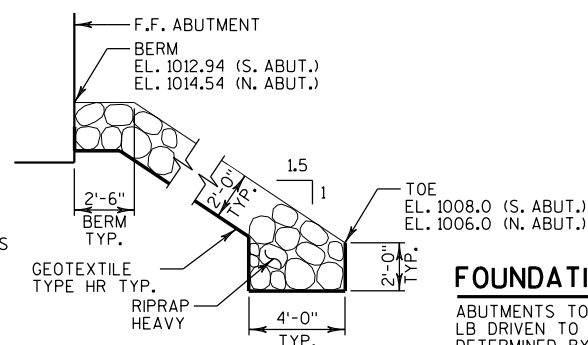
CONCRETE MASONRY:

|                      |                 |
|----------------------|-----------------|
| SUPERSTRUCTURE _____ | f'c = 4,000 PSI |
| ALL OTHER _____      | f'c = 3,500 PSI |

HIGH STRENGTH BAR STEEL REINFORCEMENT:  
GRADE 60 \_\_\_\_\_  $f_y = 60,000$  PSI

## ● BENCH MARK TABLE

| NO.  | STATION             | DESCRIPTION | ELEVATION |
|------|---------------------|-------------|-----------|
| BM 3 | 106+46.80, 45.5' RT | HMOD        | 1025.15   |
| BM 4 | 111+03.76, 0.6' LT  | MAG NAIL    | 1015.75   |



## RIPRAP DETAIL

## FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 12-INCH X 53 LB  
LB DRIVEN TO A REQUIRED RESISTANCE OF 220\*\* TONS PER PILE AS  
DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. PILE POINTS  
REQUIRED.

ESTIMATED 50' LONG AT THE SOUTH ABUTMENT.  
ESTIMATED 50' LONG AT THE NORTH ABUTMENT.

PIERS TO BE SUPPORTED ON PILING STEEL HP 12-INCH X 53 LB  
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220\*\* TONS PER  
PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. PILE  
POINTS REQUIRED.  
ESTIMATED 80' LONG AT PIER 1.  
ESTIMATED 50' LONG AT PIERS 2 & 3.  
ESTIMATED 65' LONG AT PIER 4.  
ESTIMATED 55' LONG AT PIER 5.  
ESTIMATED 50' LONG AT PIER 6.

\*\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED  
 FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY  
 A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO  
 DETERMINE DRIVEN PILE CAPACITY.

## HYDRAULIC DATA

## 100 YEAR FREQUENCY

|                     |               |
|---------------------|---------------|
| Q <sub>100</sub>    | 10,000 C.F.S. |
| Q <sub>BR</sub>     | 9,687 C.F.S.  |
| Q <sub>RD</sub>     | 313 C.F.S.    |
| VEL <sub>100</sub>  | 2.5 F.P.S.    |
| HW <sub>100</sub>   | EL. 1019.87   |
| WATERWAY AREA       | 3,817 SQ. FT. |
| DRAINAGE AREA       | 117 SQ. MI.   |
| SCOUR CRITICAL CODE | 5             |

## 2 YEAR FREQUENCY

|                   |              |
|-------------------|--------------|
| Q <sub>2</sub>    | 2,700 C.F.S. |
| VEL. <sub>2</sub> | 1.2 F.P.S.   |
| HW <sub>2</sub>   | EL. 1014.39  |

## ROAD OVERTOPPING FREQUENCY

FREQUENCY \_\_\_\_\_ 50 YEARS  
Q<sub>50</sub> \_\_\_\_\_ 8,800 C.F.S.  
HW<sub>50</sub> \_\_\_\_\_ FL. 1019.11

### TRAFFIC VOLUME

CTH M

ADT \_\_\_\_\_ 610 (2045)

R.D.S. \_\_\_\_\_ 55 M.P.H.



July 3, 2024

BUREAU OF STRUCTURES CONTACT:  
AARON BONK, P.E. (608) 261-0261

CONSULTANT CONTACT:  
ERIC PRICE, P.E. (608) 826-6146

[illegible]

DRAWINGS SHALL NOT BE SCALED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-10-397" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

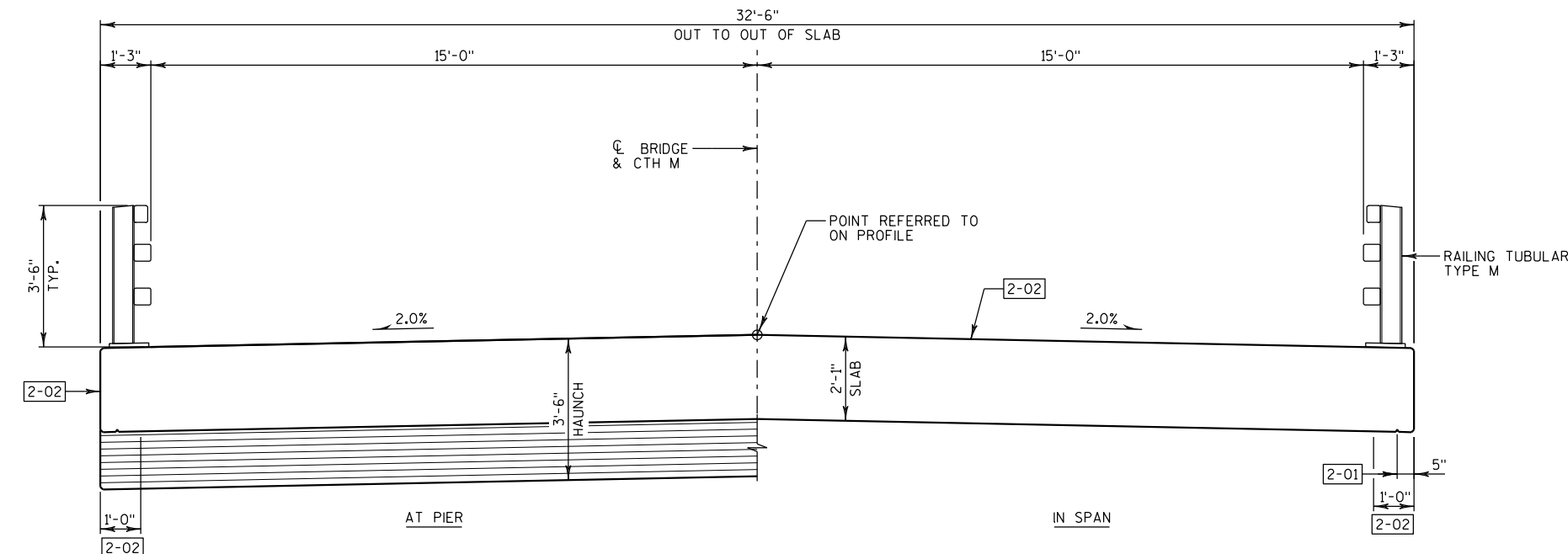
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP OF SLAB AND WINGS, THE SLAB EDGE AND UNDERSIDE OF SLAB AS SHOWN. THE EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE ABUTMENT FRONT FACES.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

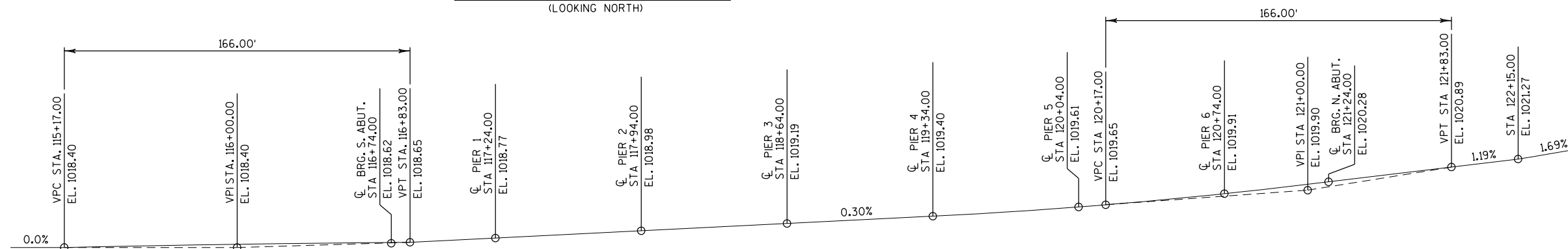
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

AT PIERS 1-6, COFFERDAMS REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.



(LOOKING NORTH)



## CTH M

[illegible]

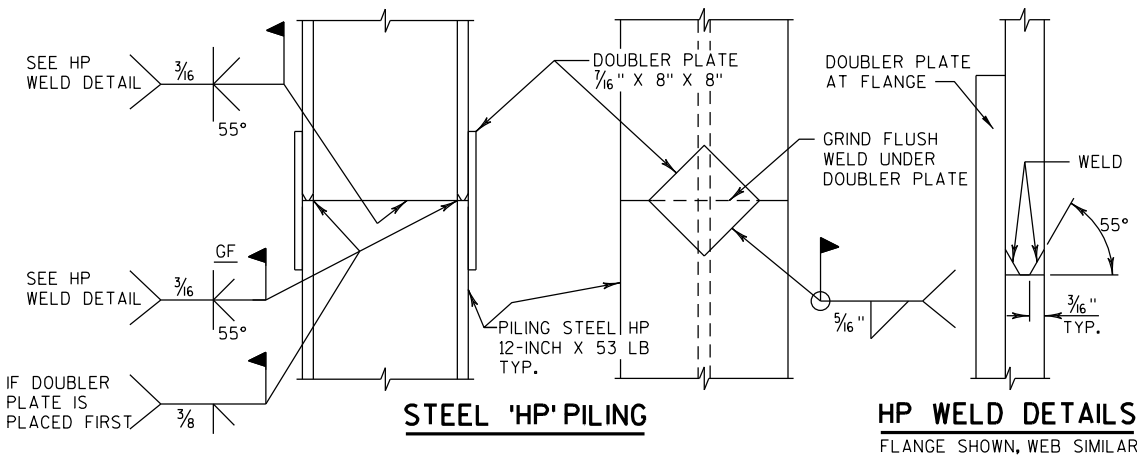
ALL ITEMS ARE CATEGORY 0020

|        |   |                        |
|--------|---|------------------------|
| ABUT.  | - | ABUTMENT               |
| B.TWN. | - | BETWEEN                |
| B.F.   | - | BACK FACE              |
| BOT.   | - | BOTTOM                 |
| BRG.   | - | BEARING                |
| CL.    | - | CLEAR                  |
| CONST. | - | CONSTRUCTION           |
| DIA.   | - | DIAMETER               |
| E.F.   | - | EACH FACE              |
| EXIST. | - | EXISTING               |
| F.F.   | - | FRONT FACE             |
| HORIZ. | - | HORIZONTAL             |
| JT.    | - | JOINT                  |
| LONG.  | - | LONGITUDINAL           |
| PPT.   | - | PARAPET                |
| PROJ.  | - | PROJECTION             |
| S.E.   | - | SEMI-EXPANSION         |
| SPA.   | - | SPACED                 |
| STD.   | - | STANDARD               |
| SYMM.  | - | SYMMETRICAL            |
| T&B    | - | TOP AND BOTTOM         |
| TRANS. | - | TRANSVERSE             |
| TYP.   | - | TYPICAL                |
| VERT.  | - | VERTICAL               |
| U.N.O. | - | UNLESS NOTED OTHERWISE |

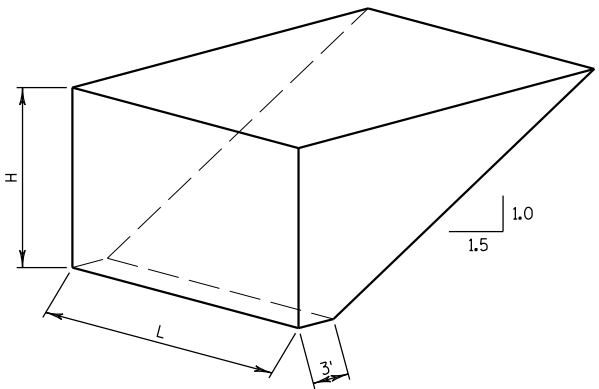
|                                                    |      |          |             |               |                    |
|----------------------------------------------------|------|----------|-------------|---------------|--------------------|
|                                                    |      |          |             |               |                    |
| NO.                                                | DATE | REVISION |             |               | BY                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |             |               |                    |
| STRUCTURE B-10-397                                 |      |          |             |               |                    |
|                                                    |      |          | DRAWN<br>BY | TKB           | PLANS<br>CK'D. ETP |
| CROSS SECTION<br>& NOTES                           |      |          |             | SHEET 2 OF 24 |                    |
|                                                    |      |          |             |               |                    |

LEGEND

- 3-01 BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION OF STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- 3-02 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN.
- 3-03 EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. "GEOTEXTILE TYPE DF SCHEDULE A" SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF EXCAVATION LIMITS.

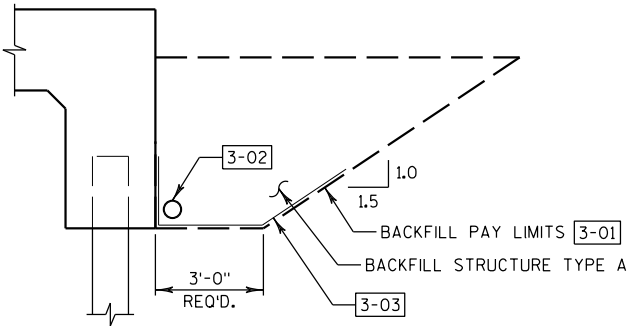


PILE SPLICE DETAILS



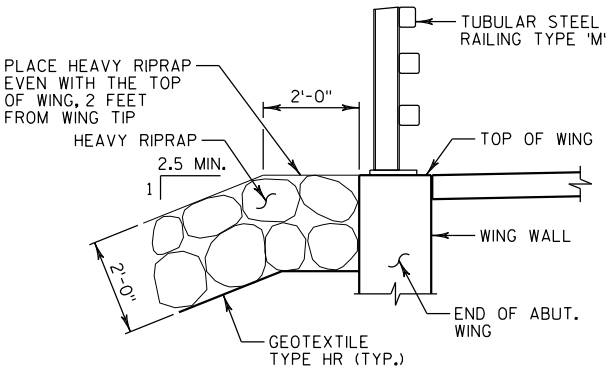
ABUTMENT BACKFILL PAY LIMIT DIAGRAM

- L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)  
H = AVERAGE ABUTMENT FILL HEIGHT (FT)  
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)  
 $V_{CF} = (L)(3.0)(H) + (L)(0.5)(1.5H)(H)$   
 $V_{CY} = V_{CF} (EF) / 27$   
 $V_{TON} = V_{CY} (2.0)$



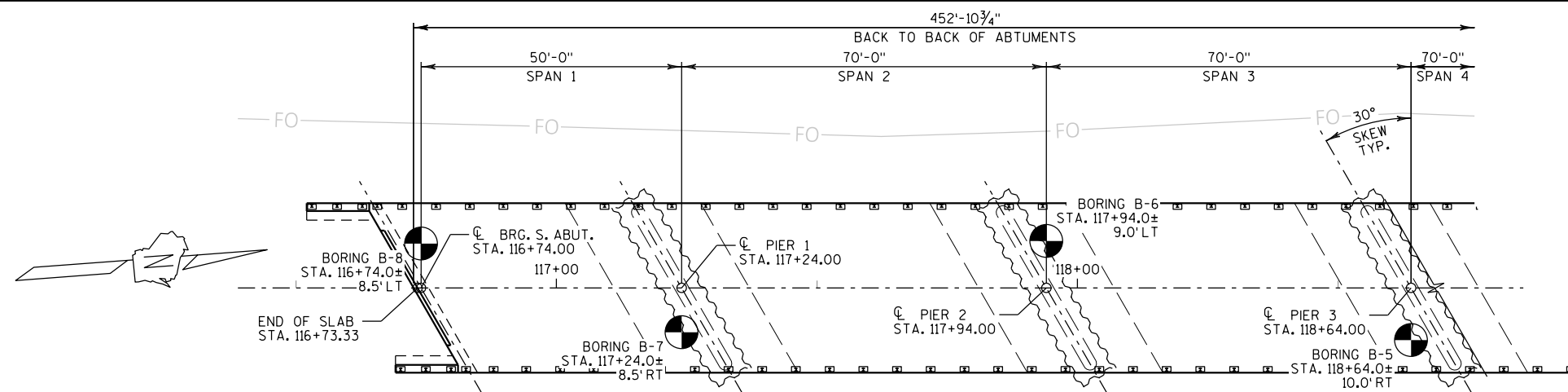
STRUCTURE BACKFILL LIMITS

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.



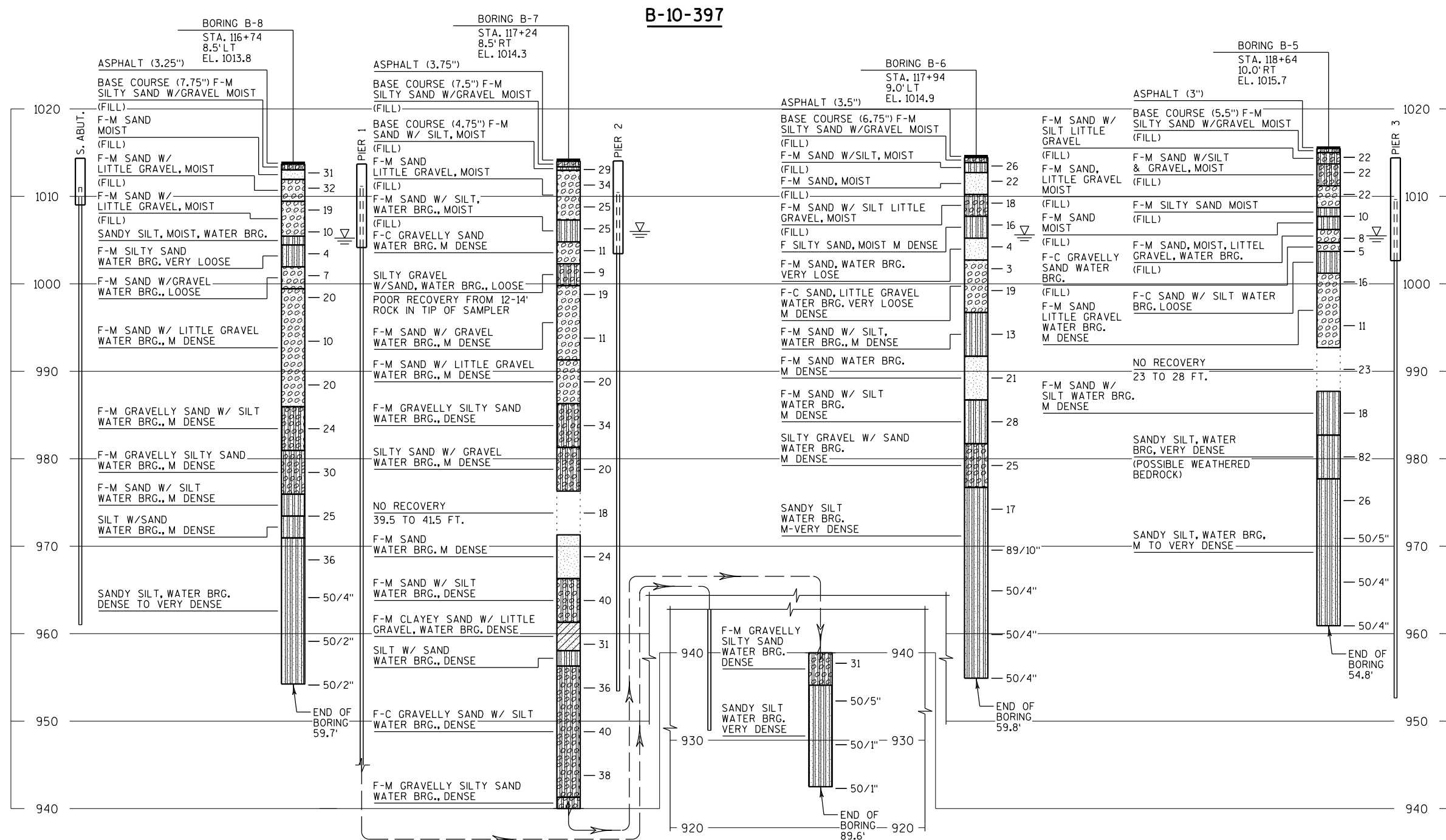
TYPICAL FILL SECTION AT WING TIPS

|                                                    |      |                    |    |
|----------------------------------------------------|------|--------------------|----|
| NO.                                                | DATE | REVISION           | BY |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |    |
| STRUCTURE B-10-397                                 |      |                    |    |
| DRAWN<br>BY TKB                                    |      | PLANS<br>CK'D. ETP |    |
| MISCELLANEOUS<br>DETAILS                           |      | SHEET 3 OF 24      |    |



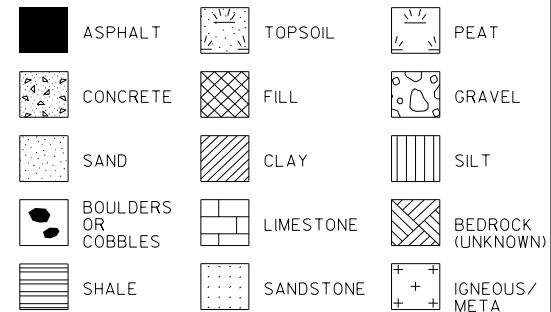
GEOTECHNICAL REPORT &  
SOIL BORINGS PERFORMED BY:  
AMERICAN ENGINEERING TESTING, INC.  
1837 JOLES AVE  
CHIPPEWA FALLS, WI 54729  
(715) 861-5045

BORING B-5  
PERFORMED ON 5/25/23  
BORING B-6  
PERFORMED ON 5/22/23  
BORING B-7  
PERFORMED ON 5/23/23  
BORING B-8  
PERFORMED ON 5/23/23

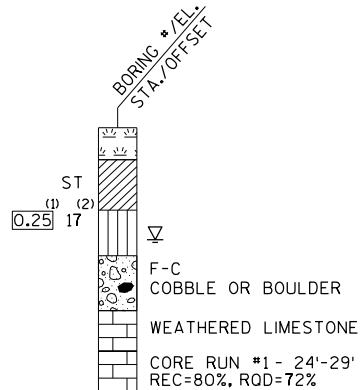


7839-03-71

## MATERIAL SYMBOLS



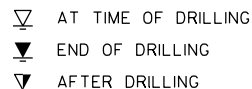
### LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE SPECIFIED, THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

## GROUND WATER ELEVATION



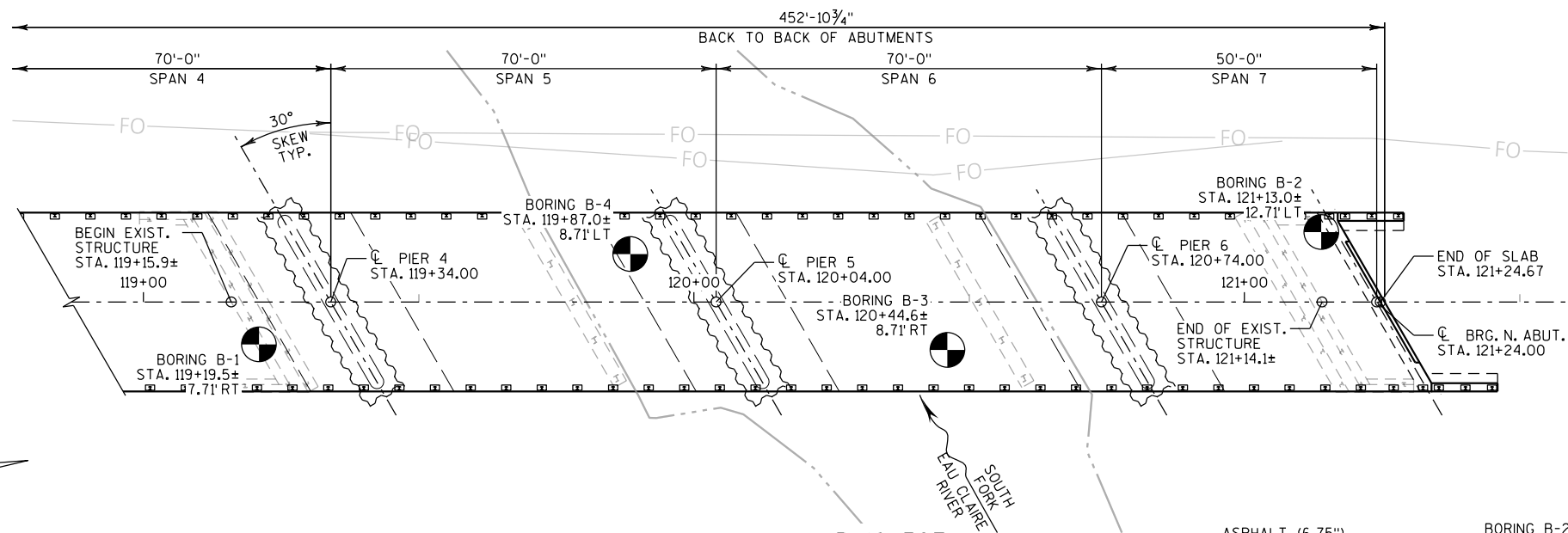
## ABBREVIATIONS

F-FINE      M-MEDIUM      C-COARSE      ST-SHELBY TUBE

## SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

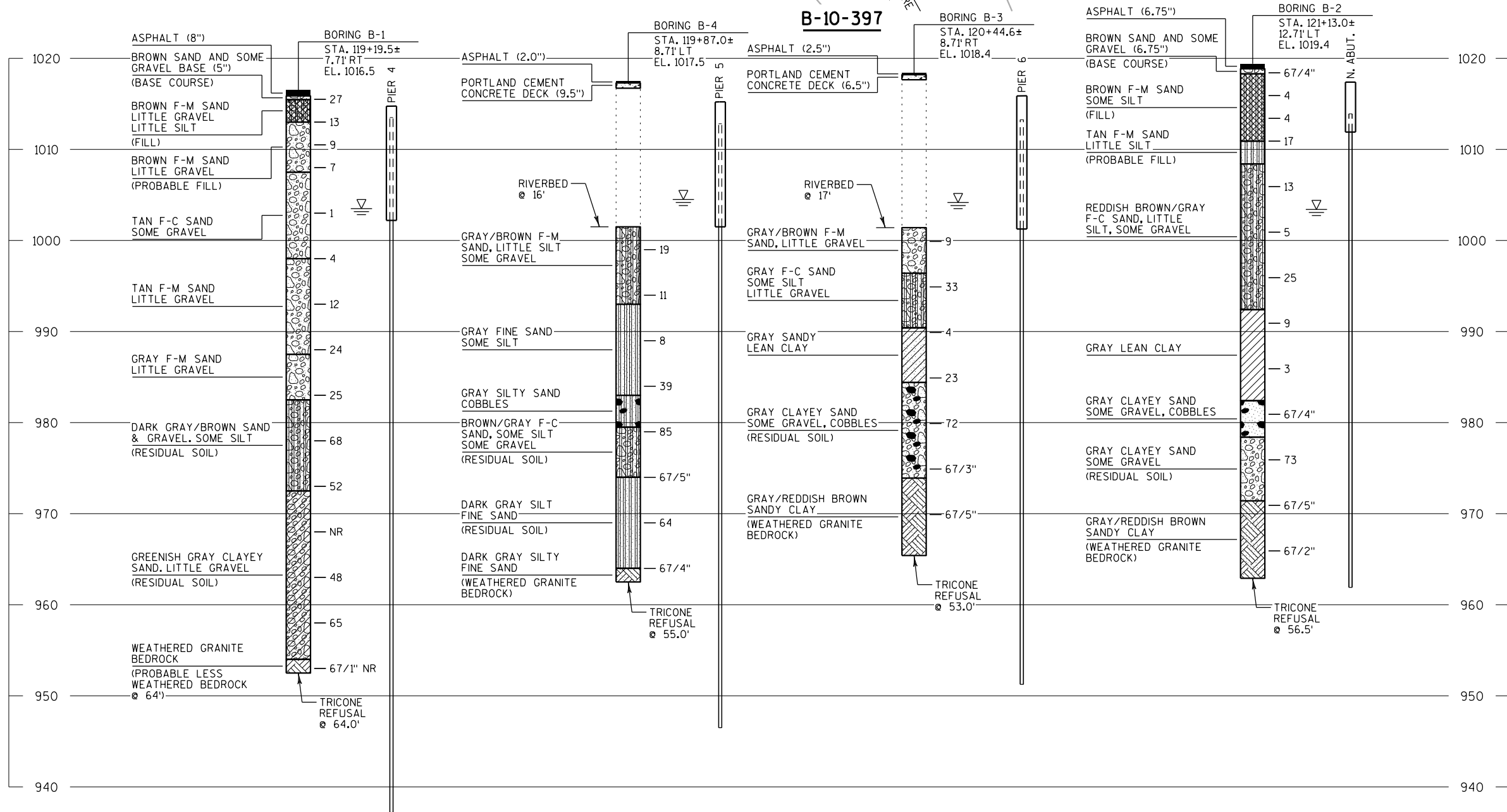
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

|                                                    |      |          |                    |
|----------------------------------------------------|------|----------|--------------------|
|                                                    |      |          |                    |
| NO.                                                | DATE | REVISION | BY                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                    |
| STRUCTURE B-10-397                                 |      |          |                    |
| DRAWN<br>BY                                        |      | TKB      | PLANS<br>CK'D. ETP |
| SUBSURFACE<br>EXPLORATION-1                        |      |          | SHEET 4 OF 24      |



GEOTECHNICAL REPORT & SOIL BORINGS PERFORMED BY: NTS NUMMELIN TESTING SERVICES, INC. CENTRAL WISCONSIN AREA: 3217 WHITING AVENUE P.O. BOX 127 STEVENS POINT, WI 54481 (715) 341-7974 MADISON AREA: 5620 WOODLAND DRIVE WAUNAKEE, WI 53597 (608) 849-9120

BORING B-1 PERFORMED ON 1/13/21 & 2/24/21  
BORING B-2 PERFORMED ON 2/2/21  
BORING B-3 PERFORMED ON 2/3/21  
BORING B-4 PERFORMED ON 2/24/21



STATE PROJECT NUMBER  
**7839-03-71**

**MATERIAL SYMBOLS**

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

**LEGEND OF BORING**

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE SPECIFIED, THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

**GROUND WATER ELEVATION**

▽ AT TIME OF DRILLING  
▽ END OF DRILLING  
▽ AFTER DRILLING

**ABBREVIATIONS**

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

**SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION**

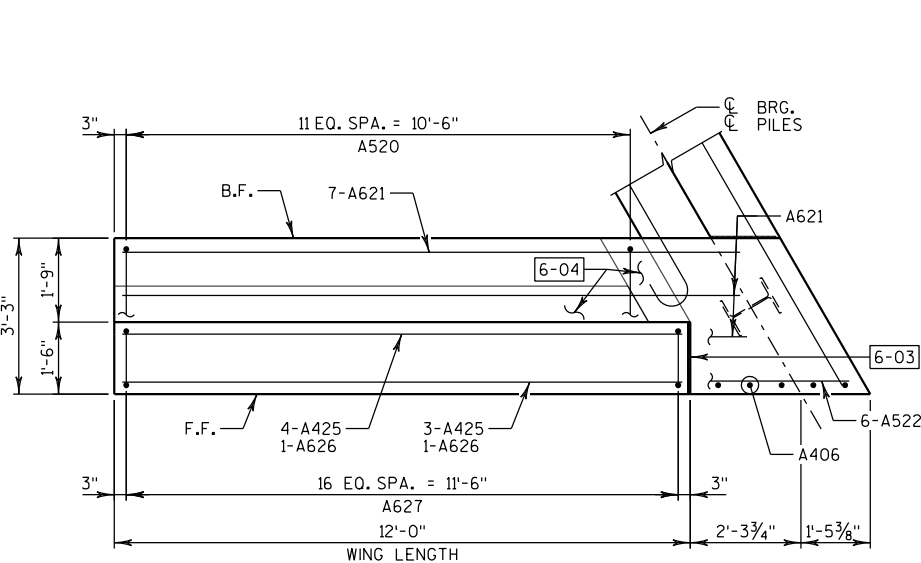
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

|                                                    |      |                 |    |
|----------------------------------------------------|------|-----------------|----|
| NO.                                                | DATE | REVISION        | BY |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |    |
| STRUCTURE B-10-397                                 |      |                 |    |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |    |
| SUBSURFACE EXPLORATION-2                           |      | SHEET 5 OF 24   |    |

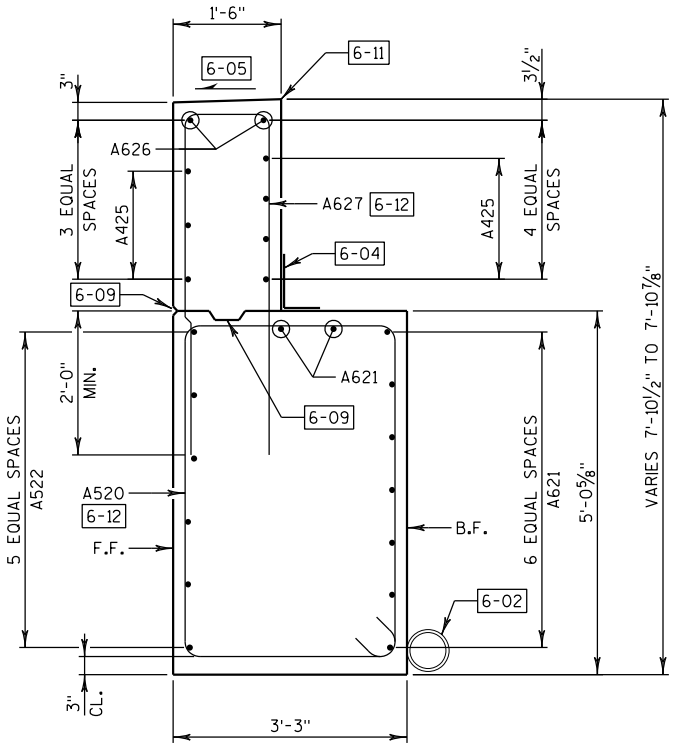


LEGEND

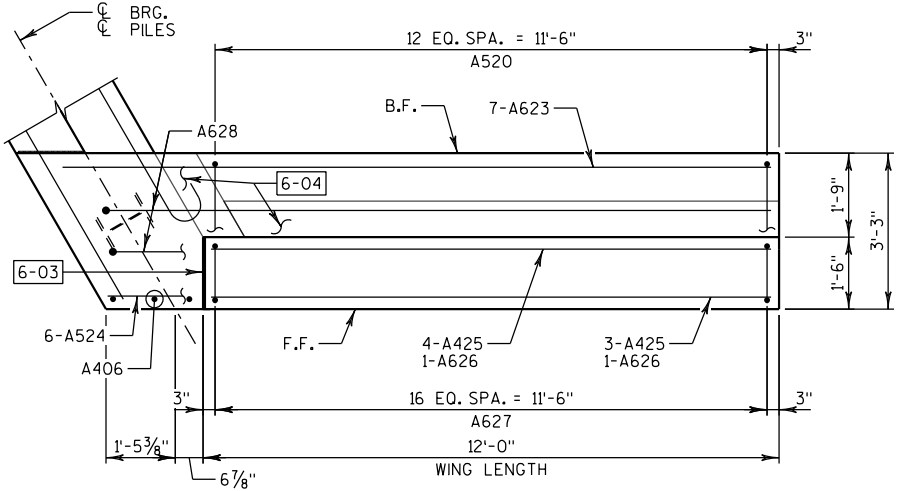
6-XX SEE SHEET 6 FOR CALLOUTS.



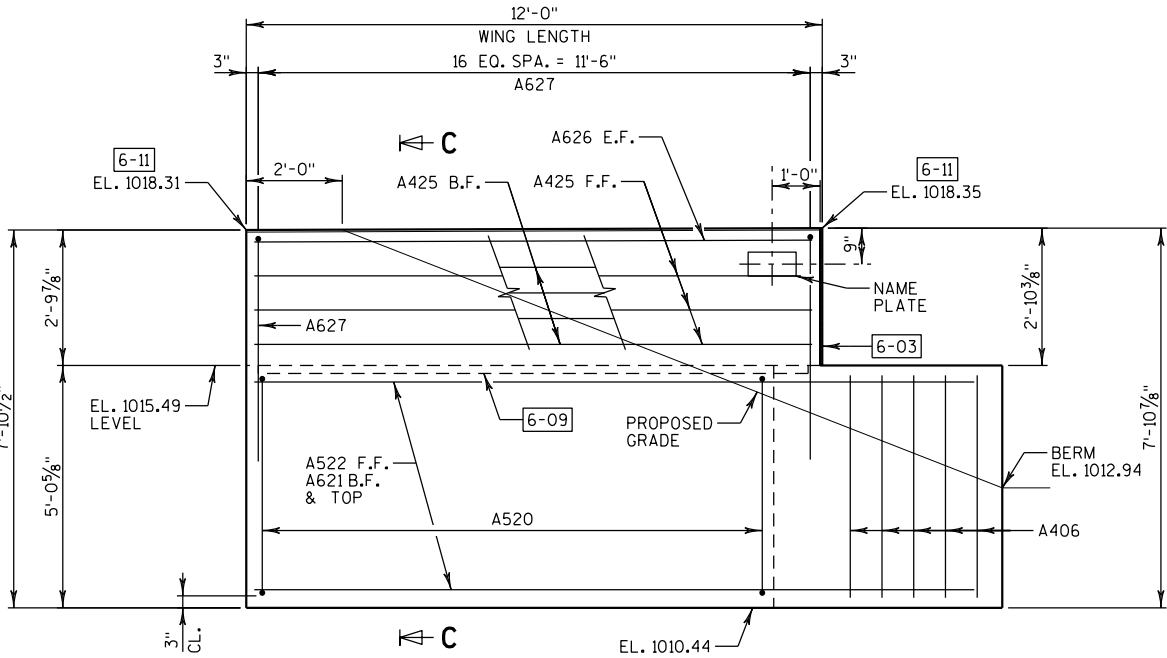
PLAN - WING 1



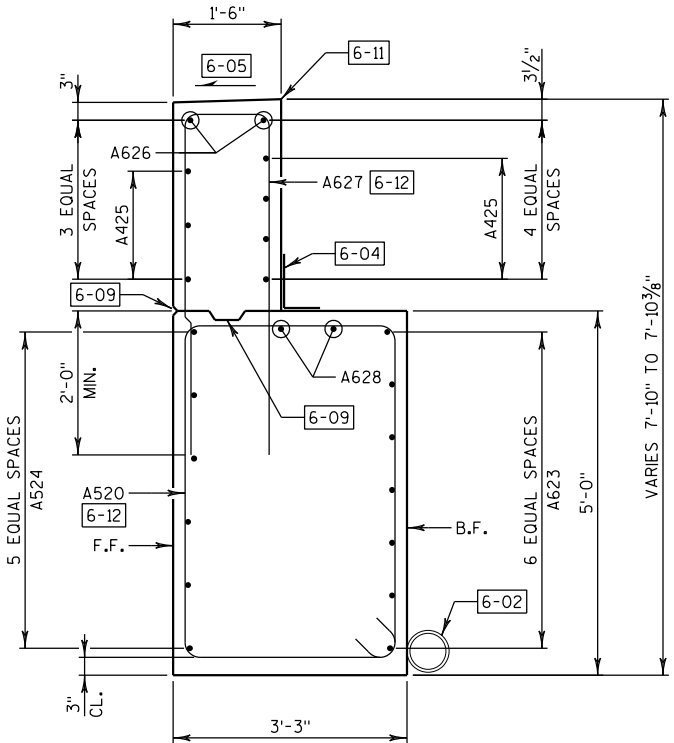
SECTION C-C



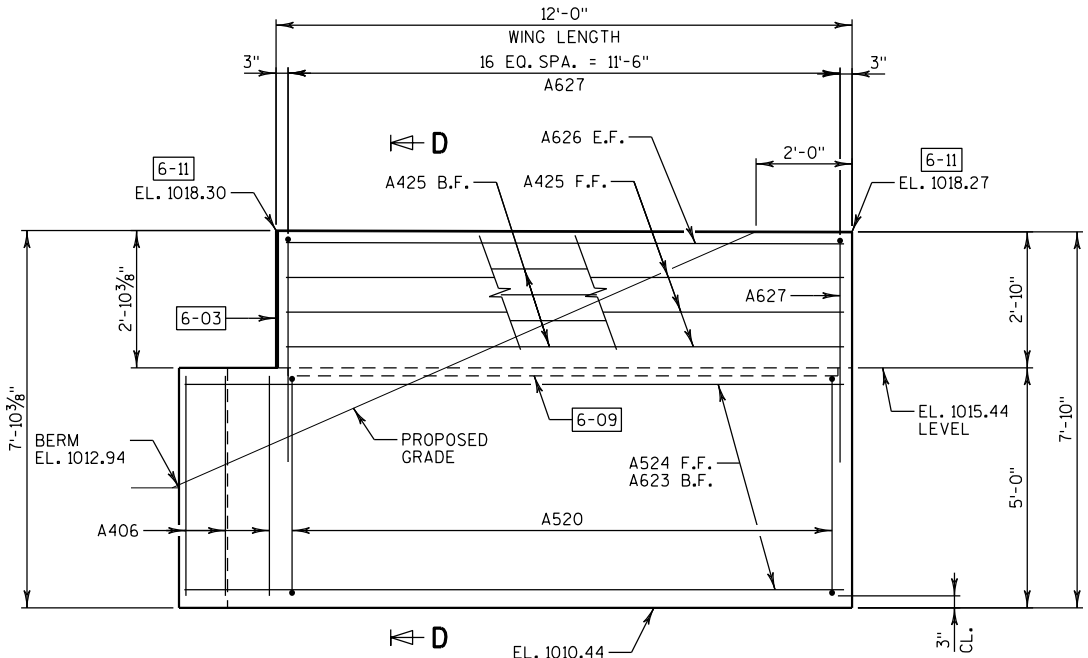
PLAN - WING 2



ELEVATION - WING 1



SECTION D-D



ELEVATION - WING 2

| NO.                                                | DATE | REVISION        | BY            |
|----------------------------------------------------|------|-----------------|---------------|
|                                                    |      |                 |               |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |               |
| STRUCTURE B-10-397                                 |      |                 |               |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |               |
| SOUTH ABUTMENT<br>DETAILS-1                        |      |                 | SHEET 7 OF 24 |

BILL OF BARS - SOUTH ABUTMENT

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| BAR MARK        | NO. REQ'D | LENGTH  | BENT | BAR SERIES | LOCATION                     |       |
|-----------------|-----------|---------|------|------------|------------------------------|-------|
| NON-COATED BARS |           |         |      |            | TOTAL WEIGHT = 2,350 LBS     |       |
| A401            | 6         | 28'-0"  | X    |            | BODY - AT PILES - 1 PER PILE | VERT. |
| A402            | 12        | 2'-3"   |      |            | BODY - AT PILES - 2 PER PILE | VERT. |
| A503            | 42        | 13'-8"  | X    |            | BODY - STIRRUPS              | VERT. |
| A604            | 20        | 20'-1"  |      |            | BODY - TOP, F.F. & BOT.      | HORIZ |
| A805            | 14        | 19'-9"  | X    |            | BODY - B.F.                  | HORIZ |
| A406            | 8         | 4'-7"   |      |            | BODY - ENDS                  | VERT. |
| A407            | 21        | 4'-1"   | X    |            | BODY - TOP NOTCH             | VERT. |
| A408            | 2         | 37'-2"  |      |            | BODY - TOP NOTCH             | HORIZ |
| A509            | 7         | 4'-9"   | X    |            | BODY - TOP                   | VERT. |
| A410            | 4         | 6'-0"   |      |            | BODY - TOP                   | HORIZ |
| A511            | 12        | 8'-2"   | X    |            | BODY - ENDS                  | VERT. |
| COATED BARS     |           |         |      |            | TOTAL WEIGHT = 1,670 LBS     |       |
| A520            | 25        | 15'-8"  | X    |            | WING FTGS. - STIRRUPS        | VERT. |
| A621            | 9         | 12'-11" |      |            | WING 1 FTG. - B.F. & TOP     | HORIZ |
| A522            | 6         | 15'-3"  |      |            | WING 1 FTG. - F.F.           | HORIZ |
| A623            | 7         | 15'-0"  |      |            | WING 2 FTG. - B.F.           | HORIZ |
| A524            | 6         | 13'-9"  |      |            | WING 2 FTG. - F.F.           | HORIZ |
| A425            | 14        | 11'-8"  |      |            | WINGS - B.F. & F.F.          | HORIZ |
| A626            | 4         | 11'-8"  |      |            | WINGS - TOP                  | HORIZ |
| A627            | 34        | 10'-4"  | X    |            | WINGS - STIRRUPS             | VERT. |
| A628            | 2         | 14'-8"  | X    |            | WING 2 FTG. - TOP            | HORIZ |

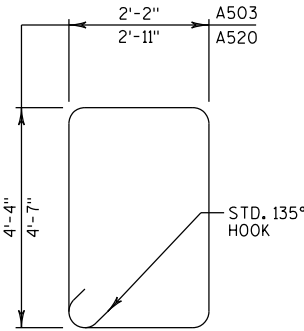
THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

LEGEND

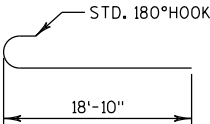
[6-XX] SEE SHEET 6 FOR CALLOUTS.



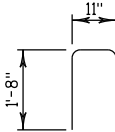
A401



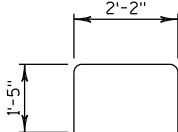
A503, A520



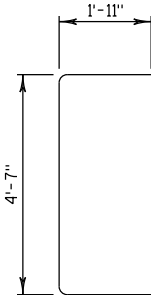
A805



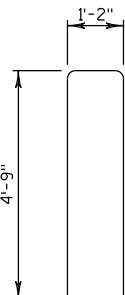
A407



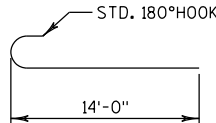
A509



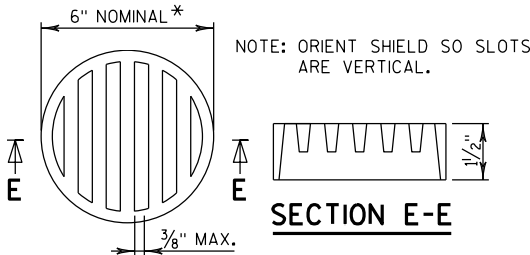
A511



A627



A628



SECTION E-E

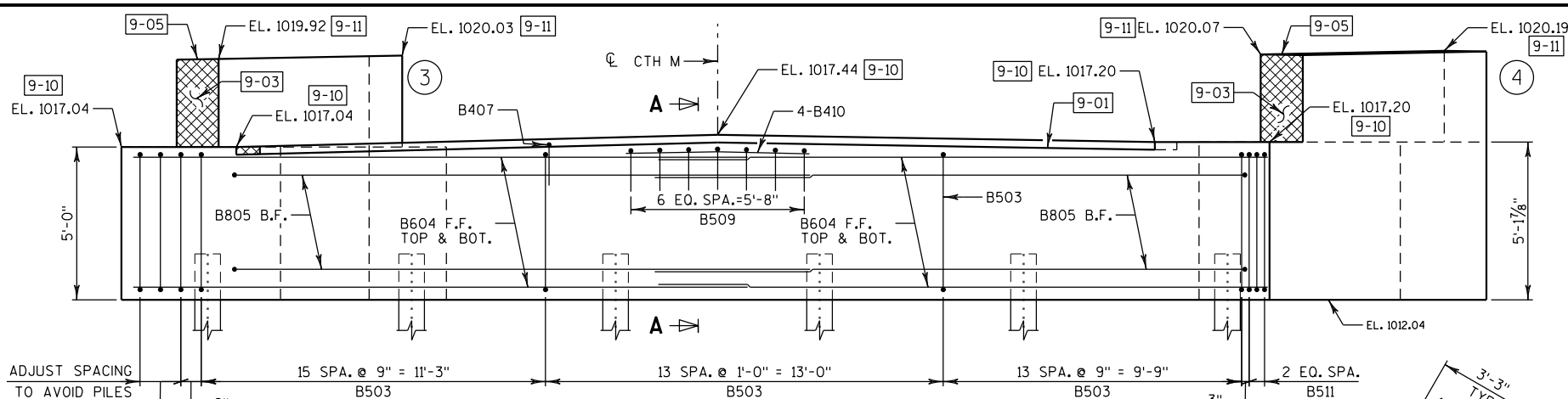
\* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

RODENT SHIELD DETAIL

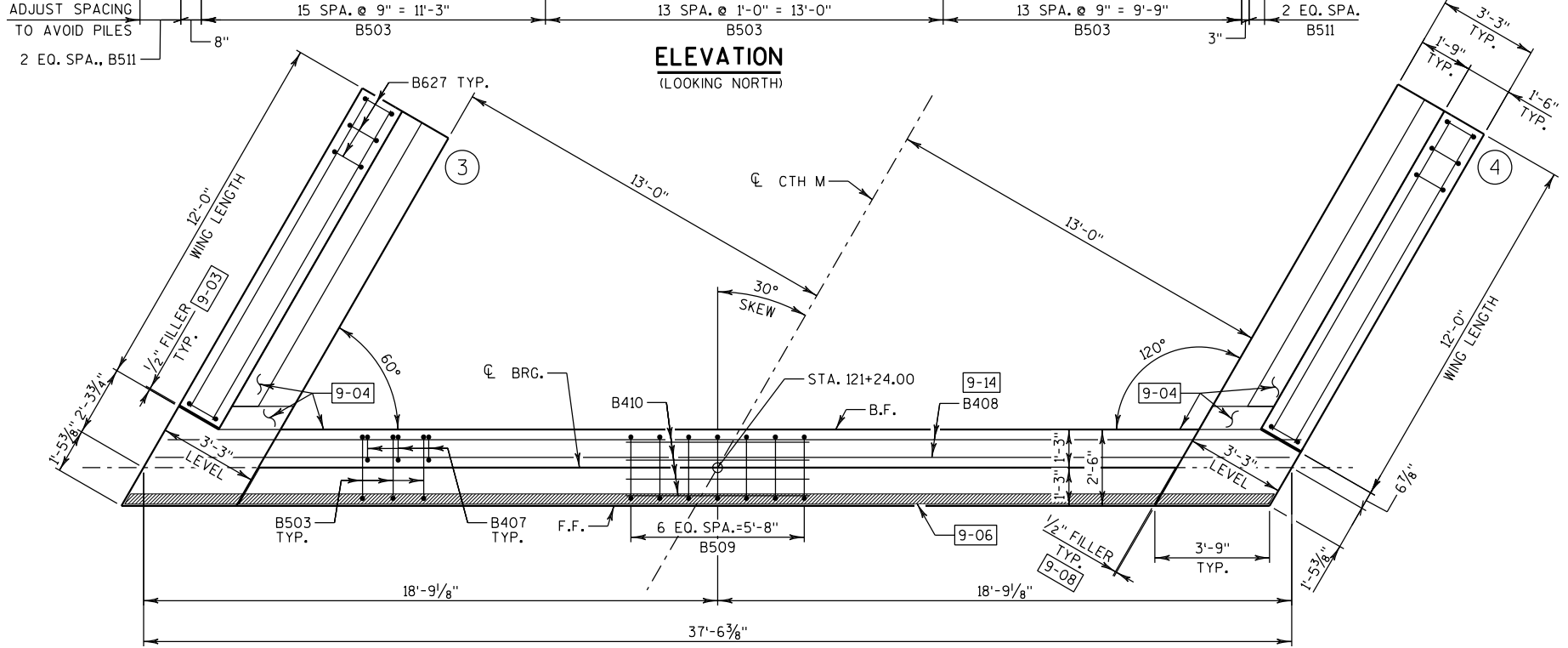
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO.10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

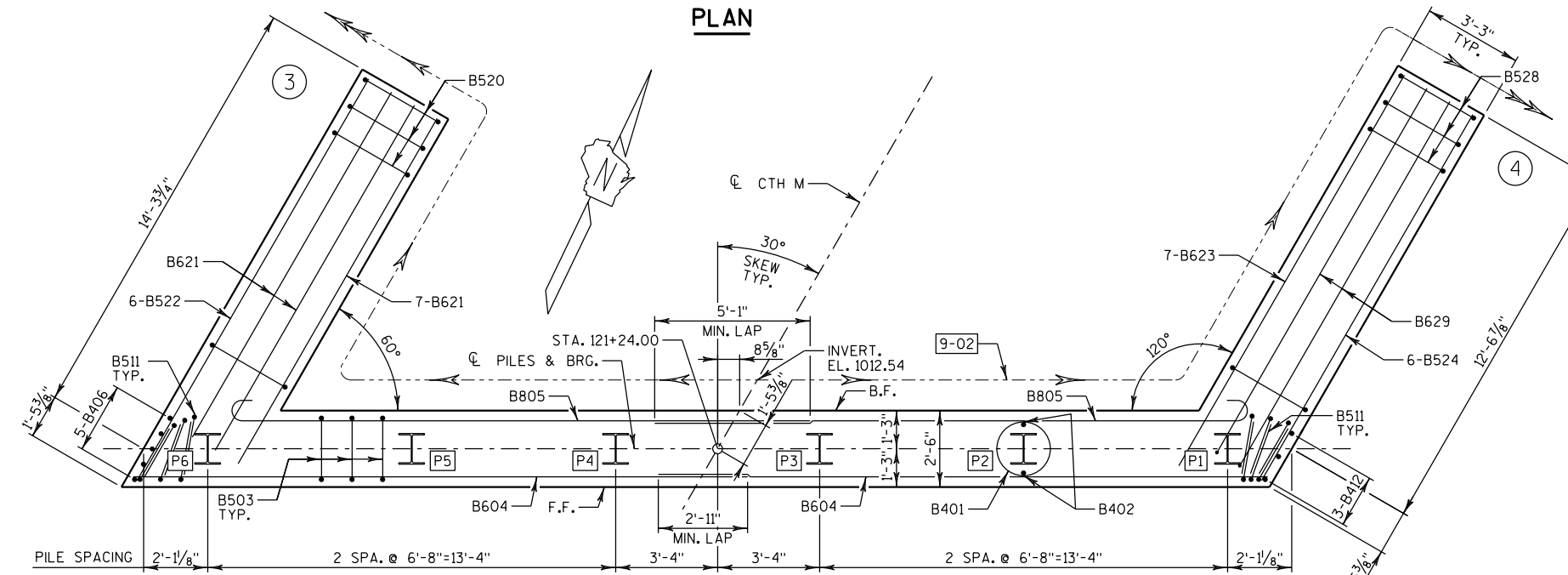
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|----------------------------------------------------|------|----------|--------------------|
|                                                    |      |          |                    |
| NO.                                                | DATE | REVISION | BY                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                    |
| STRUCTURE B-10-397                                 |      |          |                    |
| DRAWN<br>BY                                        |      | TKB      | PLANS<br>CK'D. ETP |
| SOUTH ABUTMENT<br>DETAILS-2                        |      |          | SHEET 8 OF 24      |



ELEVATION  
(LOOKING NORTH)



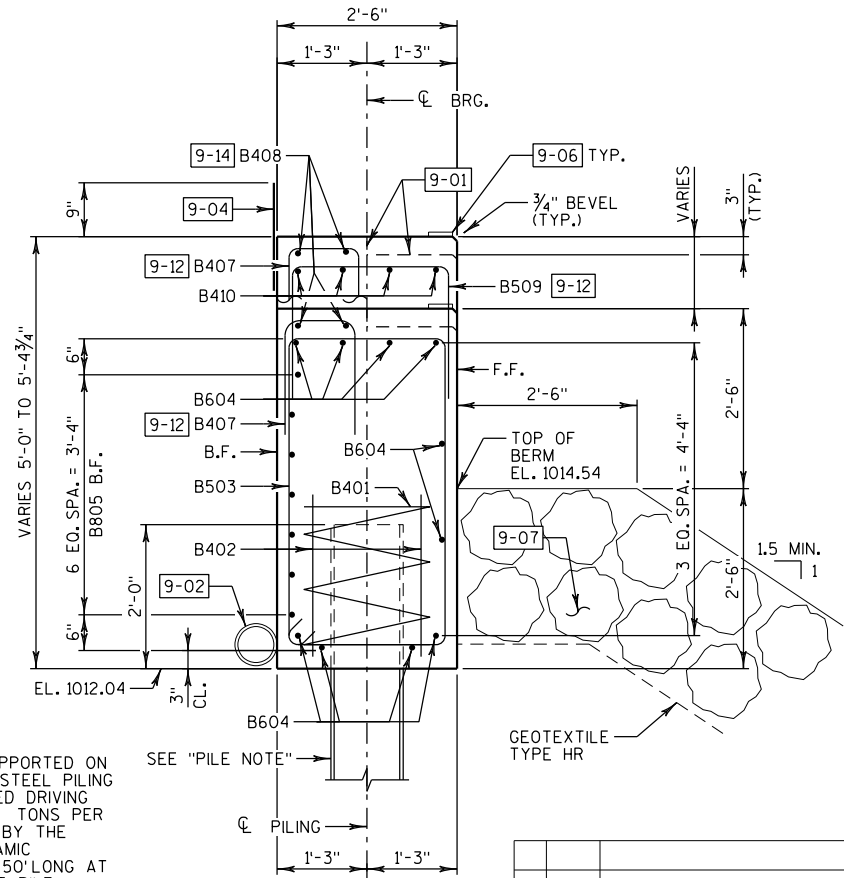
PLAN



PILE PLAN

LEGEND

- (X) INDICATES WING NUMBER.
- (PX) INDICATES PILE NUMBER.
- 9-01 STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- 9-02 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- 9-03 1/2" FILLER (INCLUDED IN WING LENGTH). SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- 9-04 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 9-05 SLOPE 2.0% TO DRAIN.
- 9-06 3/4"x4" PREFORMED JOINT FILLER TO EXTEND BETWEEN EDGES OF SLAB.
- 9-07 HEAVY RIPRAP. SEE SHEET 1 FOR ADDITIONAL DETAILS.
- 9-08 3/4" CORK FILLER ON VERTICAL SEAT FACES THAT RUN PARALLEL WITH ROADWAY.
- 9-09 OPTIONAL CONSTRUCTION JOINT: KEYWAY FORMED BY BEVELED 2x6 (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED, INCIDENTAL TO "CONCRETE MASONRY").



SECTION A-A

PILE NOTES

ABUTMENT TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220\* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA, ESTIMATED 50' LONG AT THE NORTH ABUTMENT. PILE POINTS REQUIRED.

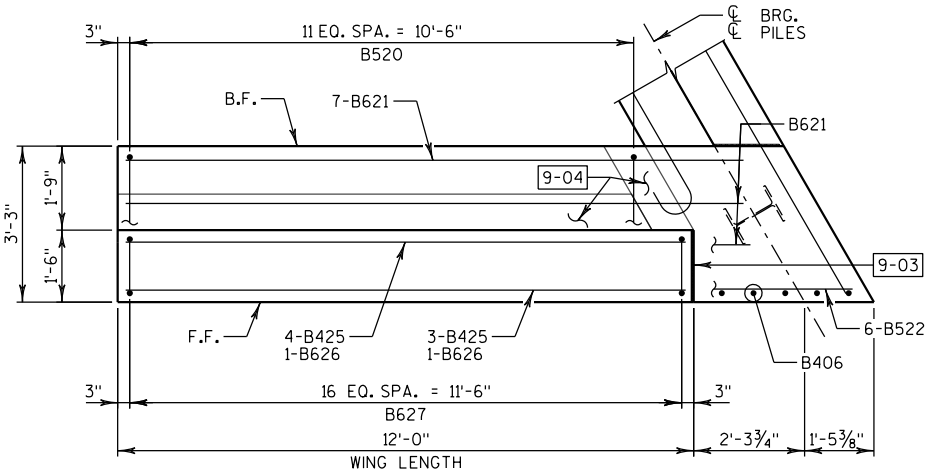
\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

STATE PROJECT NUMBER  
**7839-03-71**

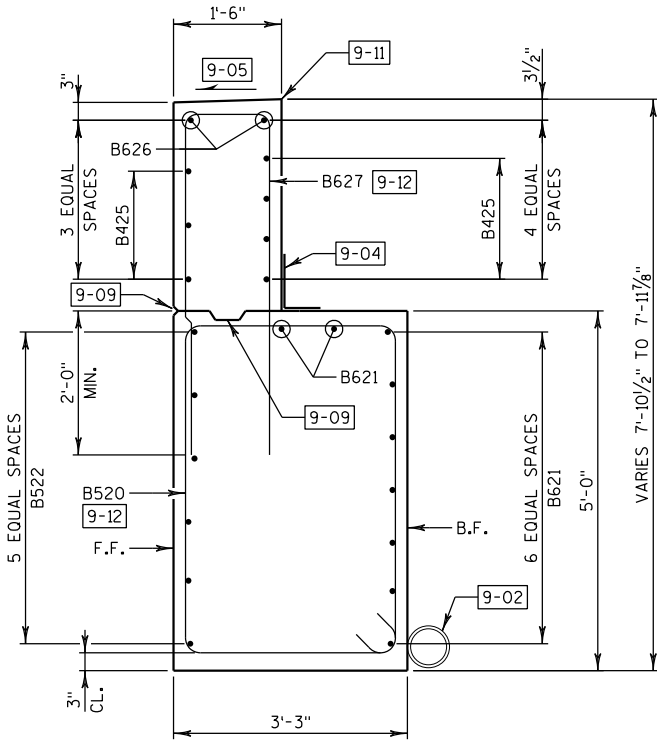
| NO.                                                | DATE | REVISION        | BY            |
|----------------------------------------------------|------|-----------------|---------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |               |
| STRUCTURE B-10-397                                 |      |                 |               |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |               |
| NORTH ABUTMENT                                     |      |                 | SHEET 9 OF 24 |

LEGEND

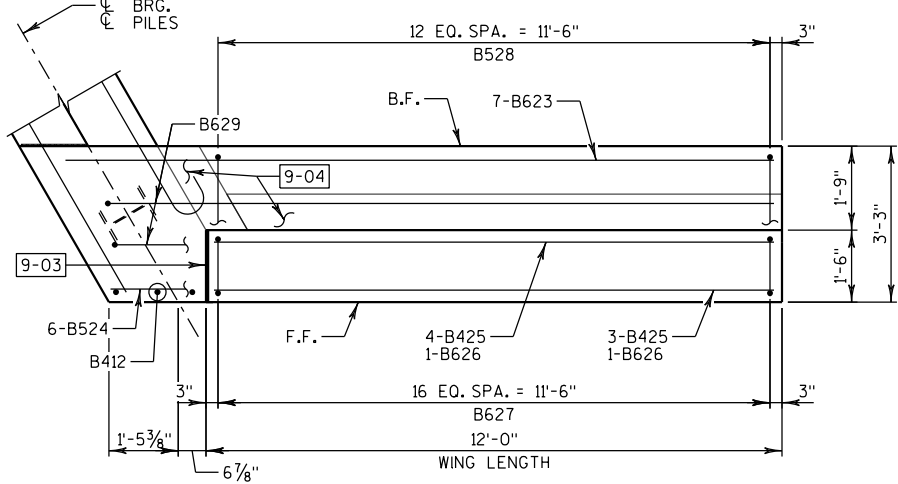
9-XX SEE SHEET 9 FOR CALLOUTS.



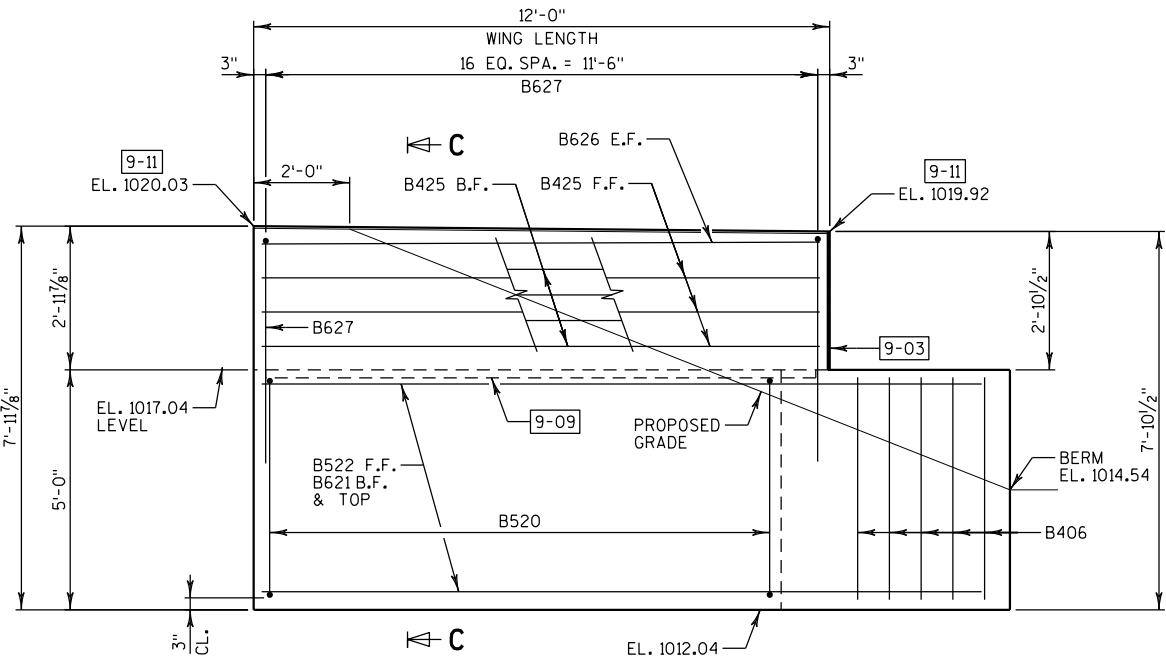
PLAN - WING 3



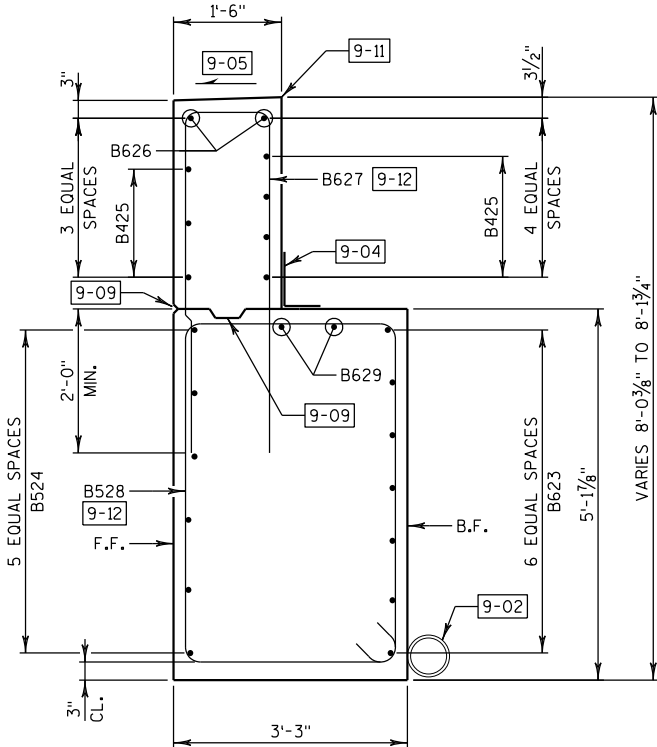
SECTION C-C



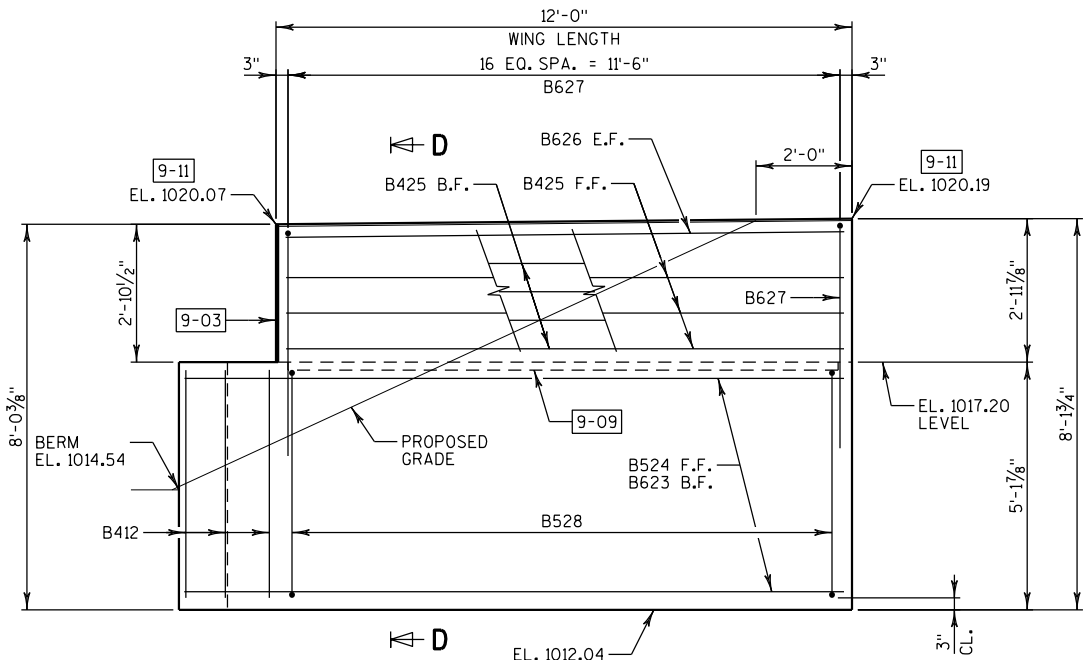
PLAN - WING 4



ELEVATION - WING 3



SECTION D-D



ELEVATION - WING 4

| NO.                                                | DATE | REVISION        | BY             |
|----------------------------------------------------|------|-----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| NORTH ABUTMENT<br>DETAILS-1                        |      |                 | SHEET 10 OF 24 |

BILL OF BARS - NORTH ABUTMENT

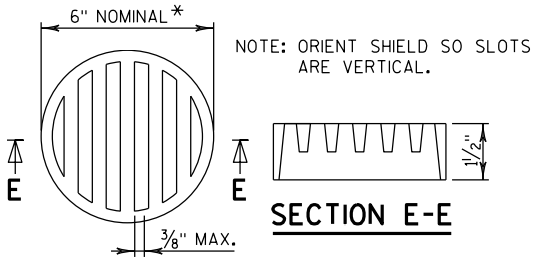
DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| BAR MARK        | NO. REQ'D | LENGTH  | BENT | BAR SERIES | LOCATION                     |        |
|-----------------|-----------|---------|------|------------|------------------------------|--------|
| NON-COATED BARS |           |         |      |            | TOTAL WEIGHT = 2,360 LBS     |        |
| B401            | 6         | 28'-0"  | X    |            | BODY - AT PILES - 1 PER PILE | VERT.  |
| B402            | 12        | 2'-3"   |      |            | BODY - AT PILES - 2 PER PILE | VERT.  |
| B503            | 42        | 13'-8"  | X    |            | BODY - STIRRUPS              | VERT.  |
| B604            | 20        | 20'-1"  |      |            | BODY - TOP, F.F. & BOT.      | HORIZ. |
| B805            | 14        | 19'-9"  | X    |            | BODY - B.F.                  | HORIZ. |
| B406            | 5         | 4'-7"   |      |            | BODY - END NEAR WING 3       | VERT.  |
| B407            | 21        | 4'-1"   | X    |            | BODY - TOP NOTCH             | VERT.  |
| B408            | 2         | 37'-2"  |      |            | BODY - TOP NOTCH             | HORIZ. |
| B509            | 7         | 4'-9"   | X    |            | BODY - TOP                   | VERT.  |
| B410            | 4         | 6'-0"   |      |            | BODY - TOP                   | HORIZ. |
| B511            | 12        | 8'-2"   | X    |            | BODY - ENDS                  | VERT.  |
| B412            | 3         | 4'-8"   |      |            | BODY - END NEAR WING 4       | VERT.  |
| COATED BARS     |           |         |      |            | TOTAL WEIGHT = 1,680 LBS     |        |
| B520            | 12        | 15'-8"  | X    |            | WING 3 FTG. - STIRRUPS       | VERT.  |
| B621            | 9         | 12'-11" |      |            | WING 3 FTG. - B.F. & TOP     | HORIZ. |
| B522            | 6         | 15'-3"  |      |            | WING 3 FTG. - F.F.           | HORIZ. |
| B623            | 7         | 15'-0"  |      |            | WING 4 FTG. - B.F.           | HORIZ. |
| B524            | 6         | 13'-9"  |      |            | WING 4 FTG. - F.F.           | HORIZ. |
| B425            | 14        | 11'-8"  |      |            | WINGS - B.F. & F.F.          | HORIZ. |
| B626            | 4         | 11'-8"  |      |            | WINGS - TOP                  | HORIZ. |
| B627            | 34        | 10'-6"  | X    |            | WINGS - STIRRUPS             | VERT.  |
| B528            | 13        | 15'-10" | X    |            | WING 4 FTG. - STIRRUPS       | VERT.  |
| B629            | 2         | 14'-8"  | X    |            | WING 4 FTG. - TOP            | HORIZ. |

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

LEGEND

[9-XX] SEE SHEET 9 FOR CALLOUTS.

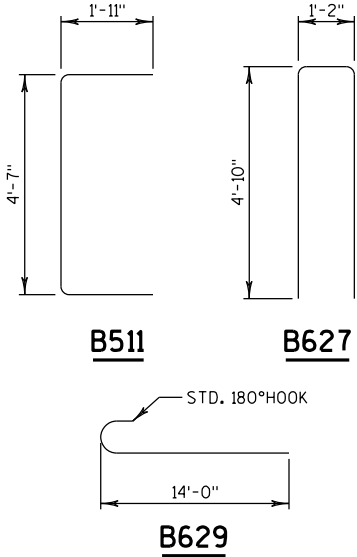
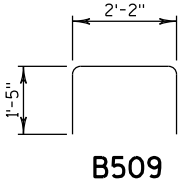
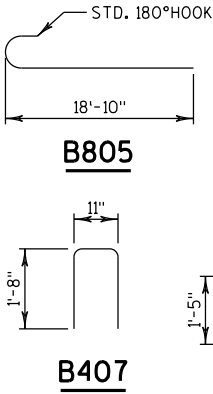
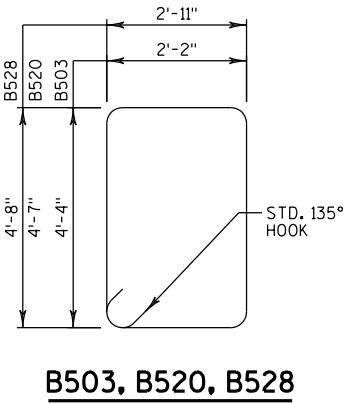


\* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

RODENT SHIELD DETAIL

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO.10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



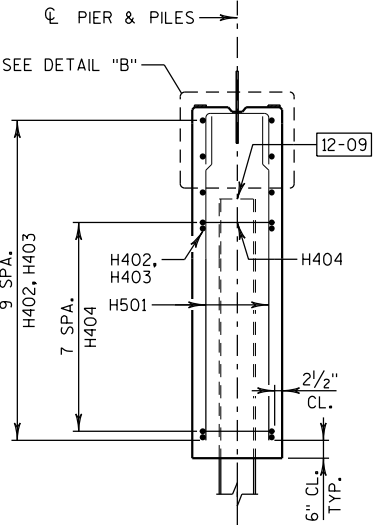
|                                                    |      |                 |                |
|----------------------------------------------------|------|-----------------|----------------|
| NO.                                                | DATE | REVISION        | BY             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| NORTH ABUTMENT<br>DETAILS-2                        |      |                 | SHEET 11 OF 24 |

BILL OF BARS - PIER 1

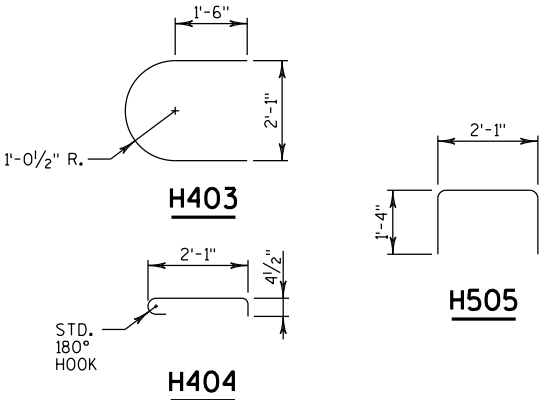
DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| BAR MARK                 | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION        |
|--------------------------|-----------|--------|------|------------|-----------------|
| NON-COATED BARS          |           |        |      |            |                 |
| TOTAL WEIGHT = 1,490 LBS |           |        |      |            |                 |
| H501                     | 74        | 9'-0"  |      |            | E.F. VERT.      |
| H402                     | 40        | 17'-6" |      |            | E.F. HORIZ.     |
| H403                     | 20        | 6'-4"  | X    |            | ENDS HORIZ.     |
| H404                     | 80        | 2'-11" | X    |            | TIE BAR HORIZ.  |
| H505                     | 18        | 4'-6"  | X    |            | TOP TIE VERT.   |
| COATED BARS              |           |        |      |            |                 |
| TOTAL WEIGHT = 70 LBS    |           |        |      |            |                 |
| H506                     | 35        | 2'-0"  |      |            | DOWEL BAR VERT. |

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



SECTION A-A



NOTES

AT PIER 1, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

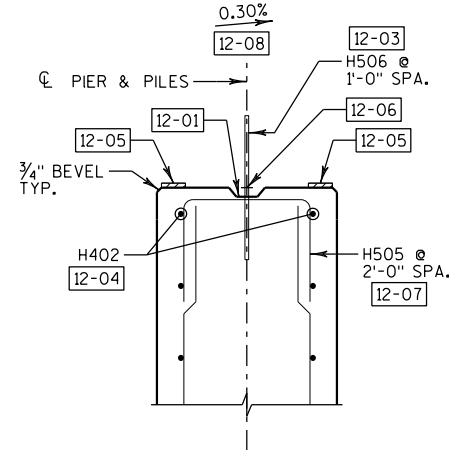
PILE NOTES

PIER TO BE SUPPORTED ON HP 12-INCH x 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220\* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA, ESTIMATED 80' LONG AT PIER 1. PILE POINTS REQUIRED.

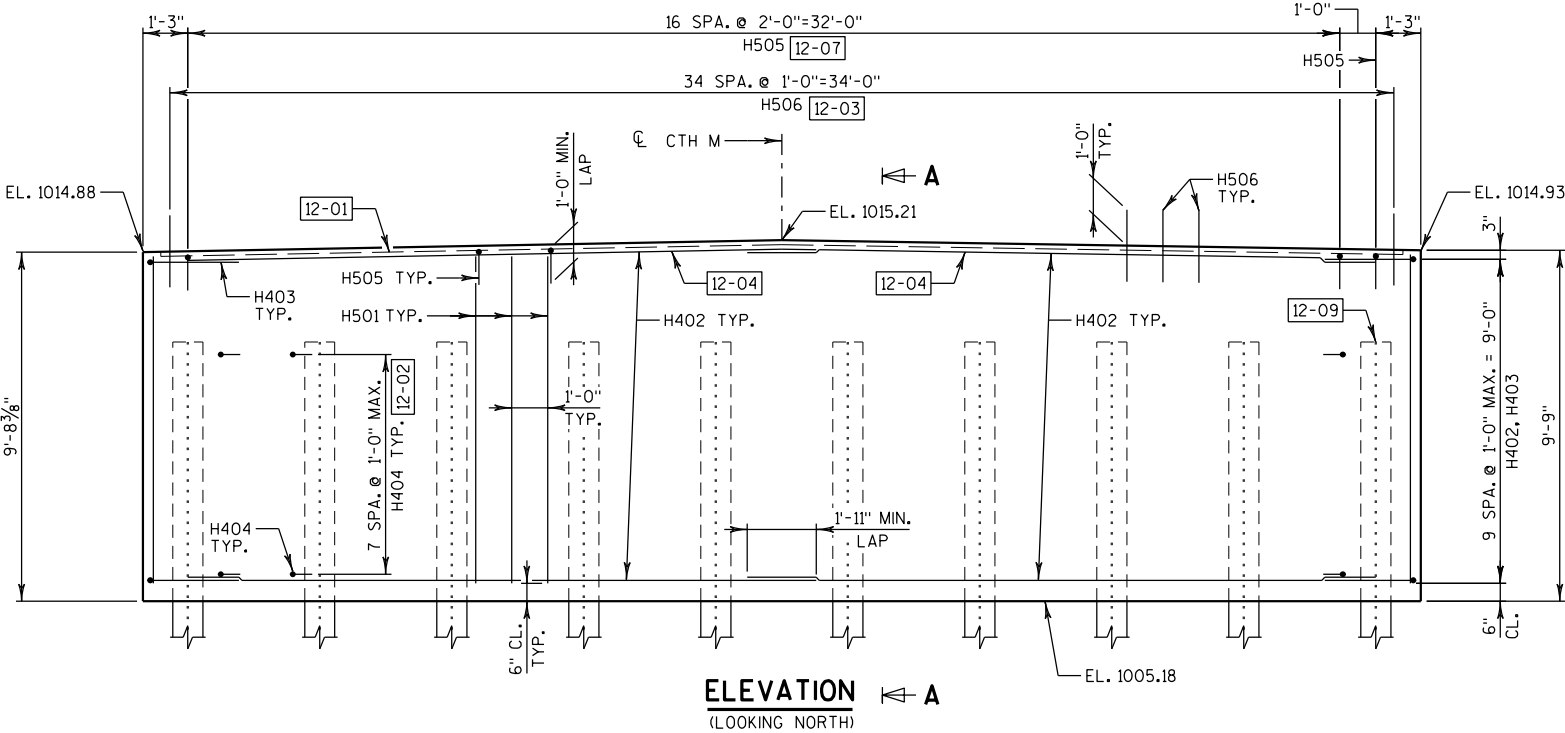
\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LEGEND

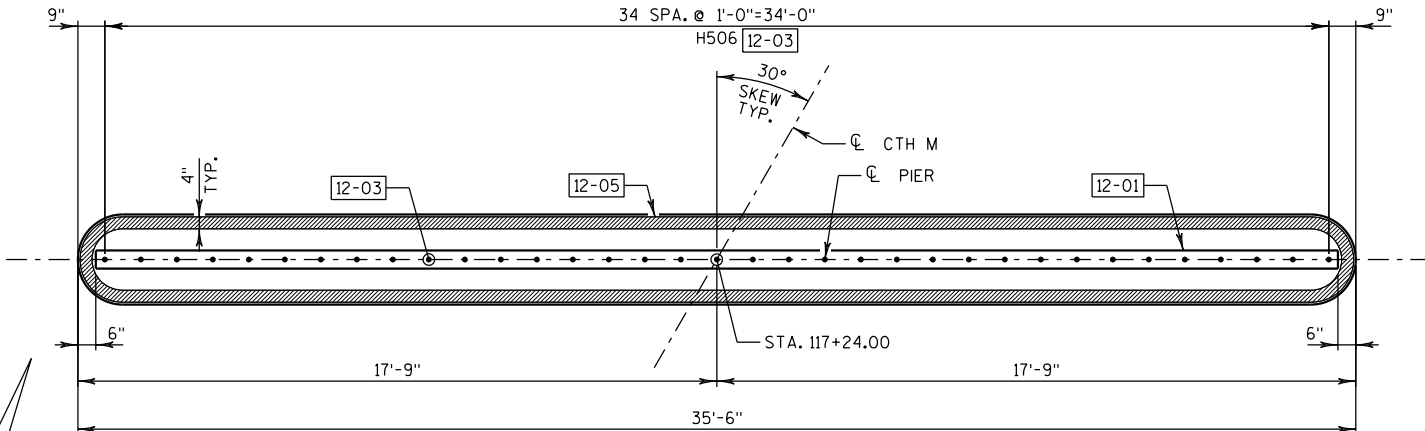
- [PX] INDICATES PILE NUMBER.
- [12-01] KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2x6.
- [12-02] H404 BARS PLACED ADJACENT TO EACH PILE ONLY. TIE TO THE NEAREST H501 BAR, VERTICAL SPACING TO MATCH TYPICAL H402, H403 SPACING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- [12-03] H506 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE).
- [12-04] FIELD BEND TO FOLLOW TOP OF PIER SLOPE.
- [12-05] 4"x3/4" PREFORMED JOINT FILLER TYP.
- [12-06] ELEVATION SHOWN IS TAKEN AT THE C/L OF PIER.
- [12-07] PULL UP TO 2" CLEAR.
- [12-08] SLOPE TOP OF PIER AS SHOWN.
- [12-09] TYPICAL TOP OF PILE EL. 1012.38. SEE "PILE NOTES".



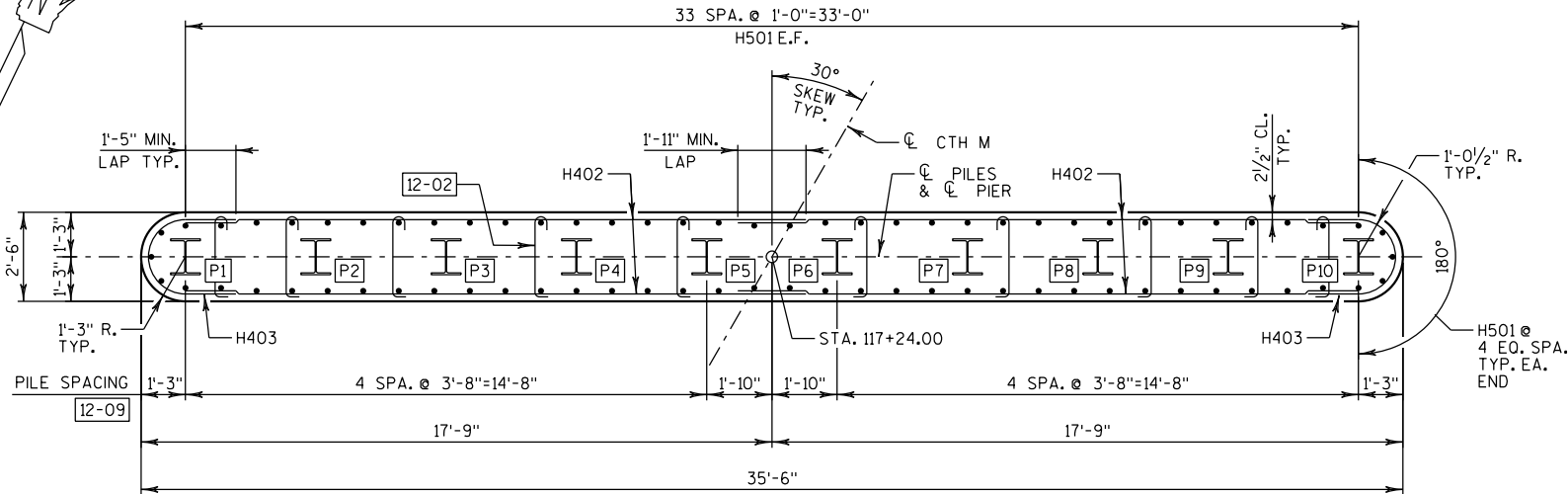
DETAIL "B"



ELEVATION



PLAN



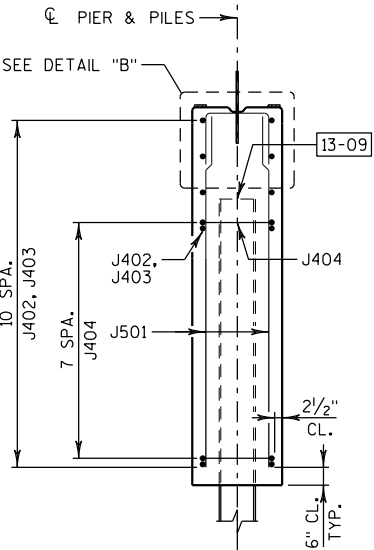
PILE PLAN

BILL OF BARS - PIER 2

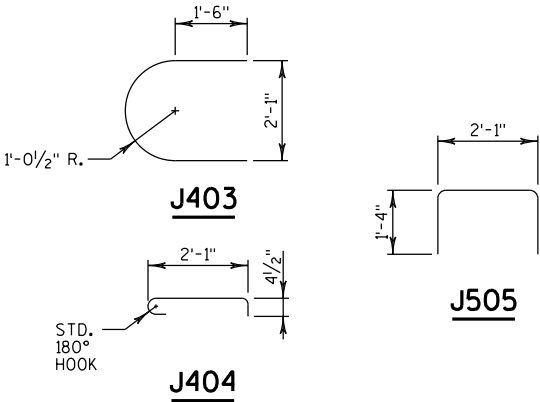
DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| BAR MARK        | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION                 |
|-----------------|-----------|--------|------|------------|--------------------------|
| NON-COATED BARS |           |        |      |            | TOTAL WEIGHT = 1,600 LBS |
| J501            | 74        | 9'-9"  |      |            | E.F. VERT.               |
| J402            | 44        | 17'-6" |      |            | E.F. HORIZ.              |
| J403            | 22        | 6'-4"  | X    |            | ENDS HORIZ.              |
| J404            | 80        | 2'-11" | X    |            | TIE BAR HORIZ.           |
| J505            | 18        | 4'-6"  | X    |            | TOP TIE VERT.            |
| COATED BARS     |           |        |      |            | TOTAL WEIGHT = 70 LBS    |
| J506            | 35        | 2'-0"  |      |            | DOWEL BAR VERT.          |

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



SECTION A-A



NOTES

AT PIER 2, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

PILE NOTES

PIER TO BE SUPPORTED ON HP 12-INCH x 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220\* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA, ESTIMATED 50' LONG AT PIER 2. PILE POINTS REQUIRED.

\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LEGEND

[PX] INDICATES PILE NUMBER.

[13-01] KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2x6.

[13-02] J404 BARS PLACED ADJACENT TO EACH PILE ONLY. TIE TO THE NEAREST J501 BAR. VERTICAL SPACING TO MATCH TYPICAL J402, J403 SPACING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

[13-03] J506 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE).

[13-04] FIELD BEND TO FOLLOW TOP OF PIER SLOPE.

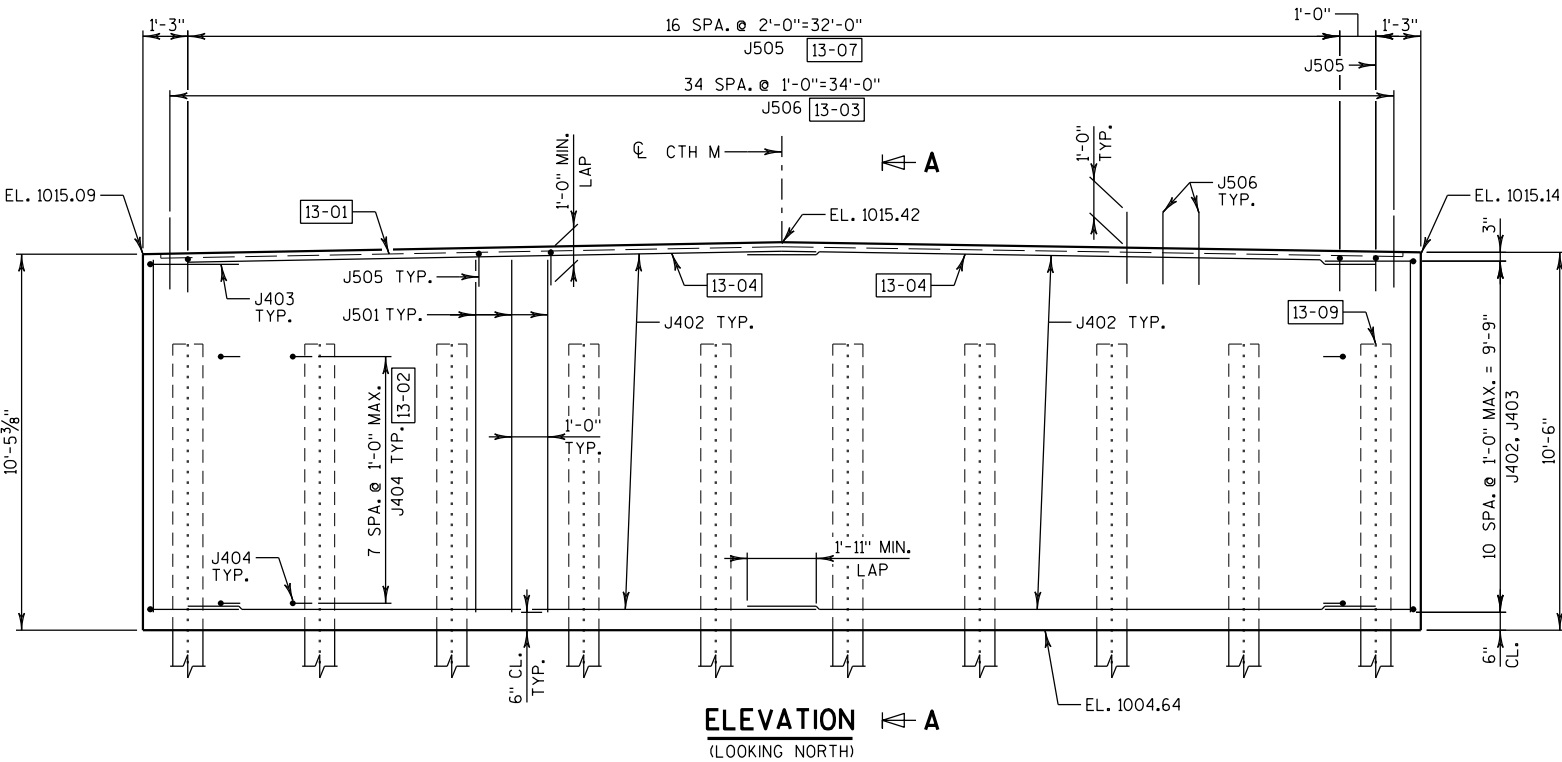
[13-05] 4"x3/4" PREFORMED JOINT FILLER TYP.

[13-06] ELEVATION SHOWN IS TAKEN AT THE CL. OF PIER.

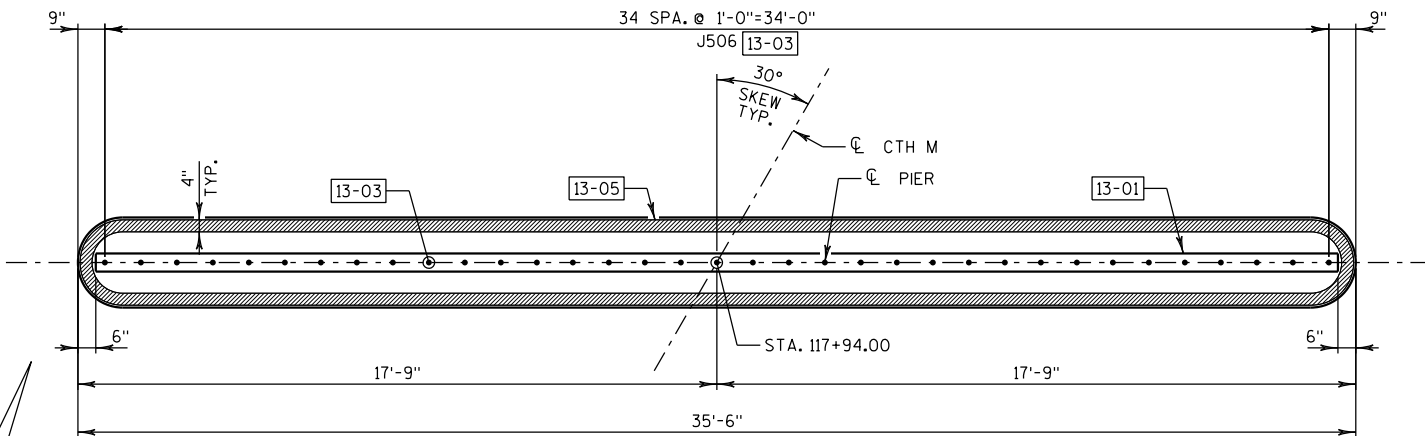
[13-07] PULL UP TO 2" CLEAR.

[13-08] SLOPE TOP OF PIER AS SHOWN.

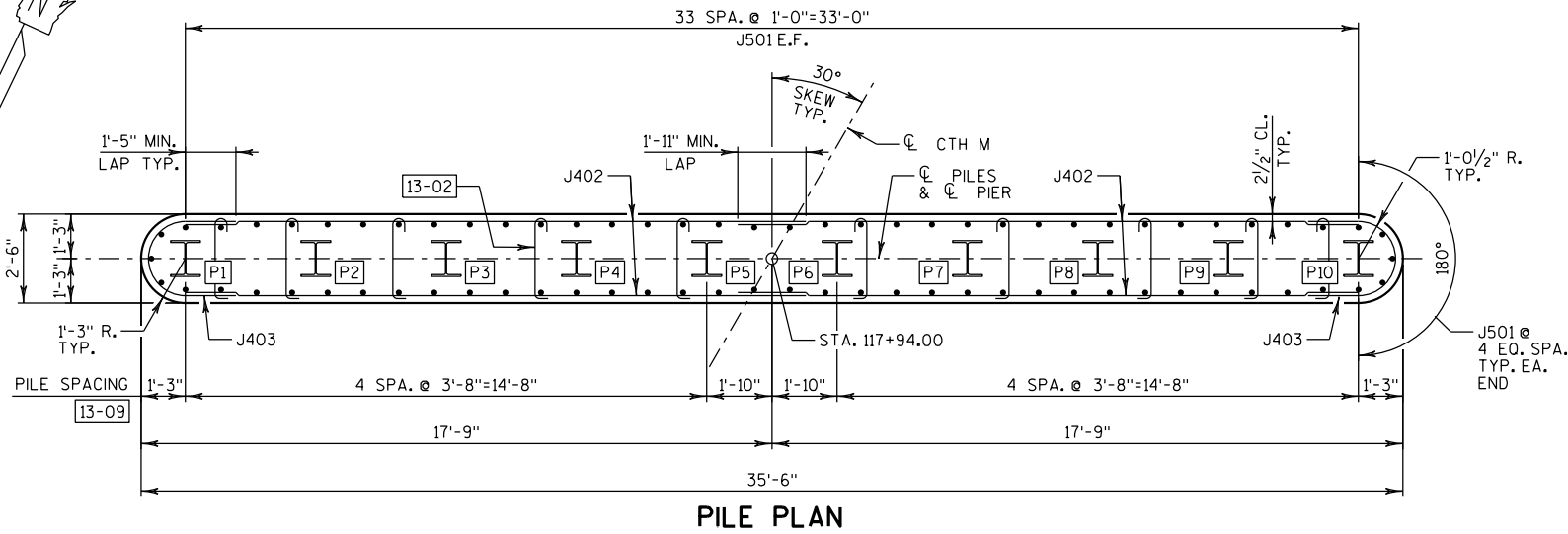
[13-09] TYPICAL TOP OF PILE EL. 1012.59. SEE "PILE NOTES".



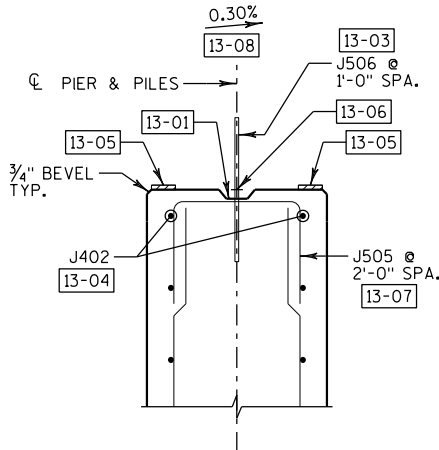
ELEVATION A  
(LOOKING NORTH)



PLAN



PILE PLAN



DETAIL "B"

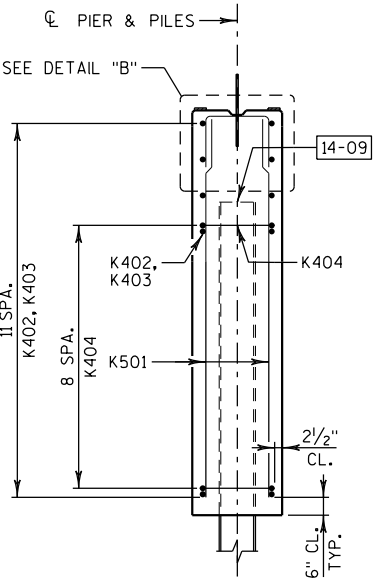
| NO.                                                | DATE | REVISION        | BY             |
|----------------------------------------------------|------|-----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| PIER 2                                             |      |                 | SHEET 13 OF 24 |

BILL OF BARS - PIER 3

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| BAR MARK        | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION                 |
|-----------------|-----------|--------|------|------------|--------------------------|
| NON-COATED BARS |           |        |      |            | TOTAL WEIGHT = 1,730 LBS |
| K501            | 74        | 10'-6" |      |            | E.F. VERT.               |
| K402            | 48        | 17'-6" |      |            | E.F. HORIZ.              |
| K403            | 24        | 6'-4"  | X    |            | ENDS HORIZ.              |
| K404            | 90        | 2'-11" | X    |            | TIE BAR HORIZ.           |
| K505            | 18        | 4'-6"  | X    |            | TOP TIE VERT.            |
| COATED BARS     |           |        |      |            | TOTAL WEIGHT = 70 LBS    |
| K506            | 35        | 2'-0"  |      |            | DOWEL BAR VERT.          |

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



SECTION A-A

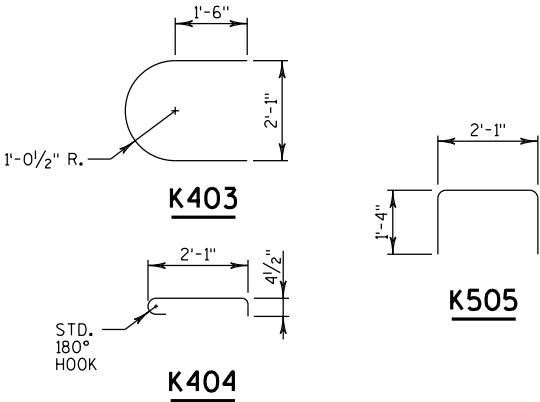
NOTES

AT PIER 3, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3; CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

PILE NOTES

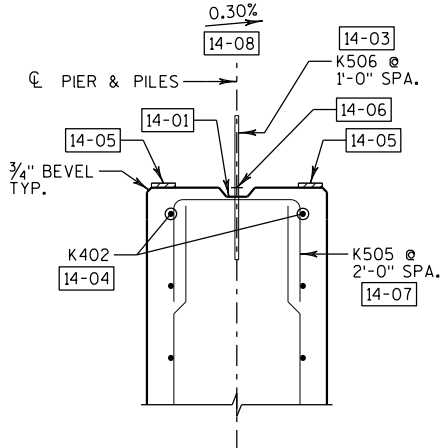
PIER TO BE SUPPORTED ON HP 12-INCH x 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220\* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA, ESTIMATED 50' LONG AT PIER 3. PILE POINTS REQUIRED.

\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

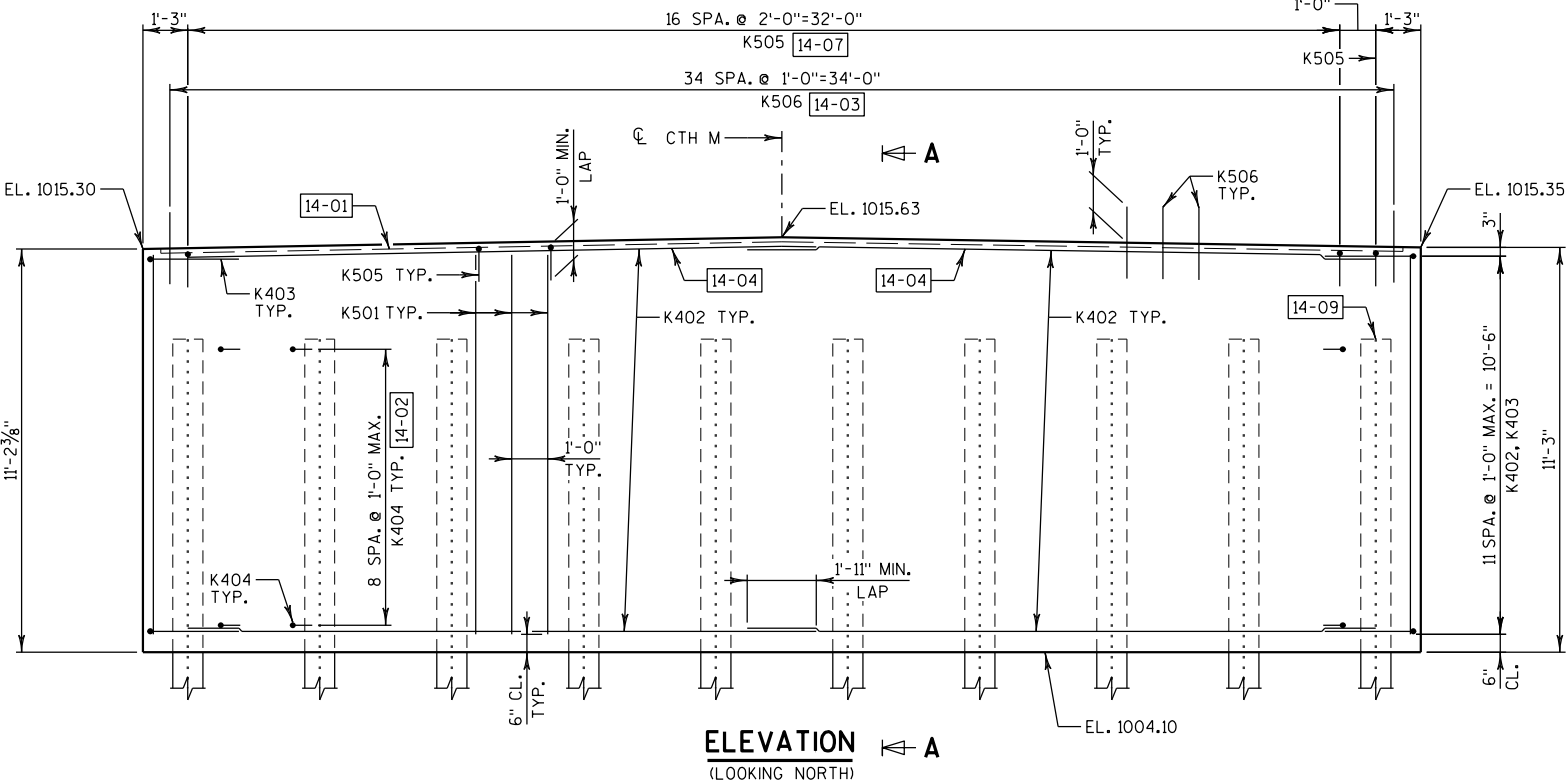


LEGEND

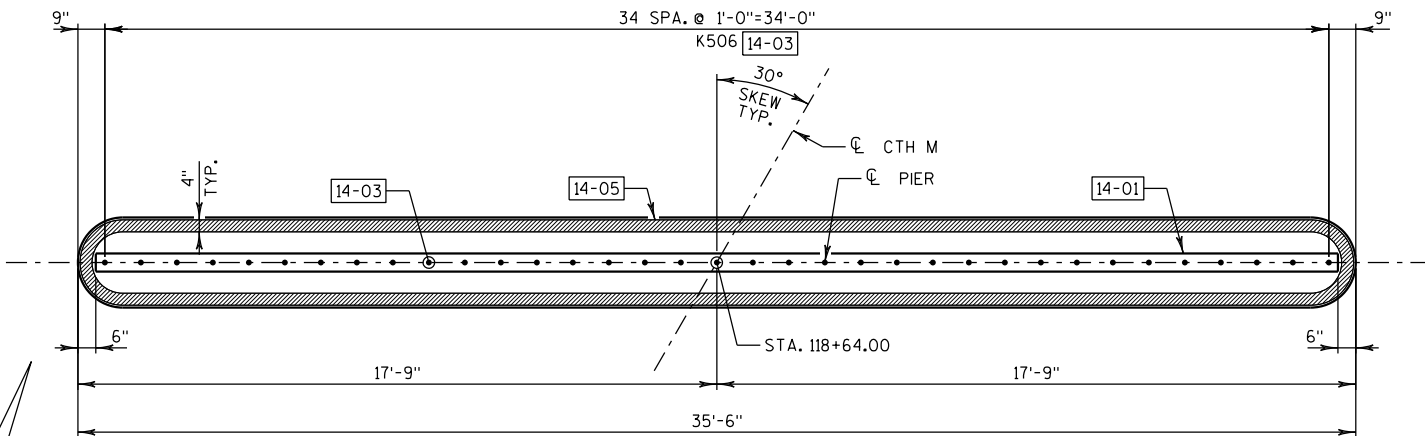
- [PX] INDICATES PILE NUMBER.
- [14-01] KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2x6.
- [14-02] K404 BARS PLACED ADJACENT TO EACH PILE ONLY. TIE TO THE NEAREST K501 BAR, VERTICAL SPACING TO MATCH TYPICAL K402, K403 SPACING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- [14-03] K506 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE).
- [14-04] FIELD BEND TO FOLLOW TOP OF PIER SLOPE.
- [14-05] 4"x3/4" PREFORMED JOINT FILLER TYP.
- [14-06] ELEVATION SHOWN IS TAKEN AT THE C/L OF PIER.
- [14-07] PULL UP TO 2" CLEAR.
- [14-08] SLOPE TOP OF PIER AS SHOWN.
- [14-09] TYPICAL TOP OF PILE EL. 1012.80. SEE "PILE NOTES".



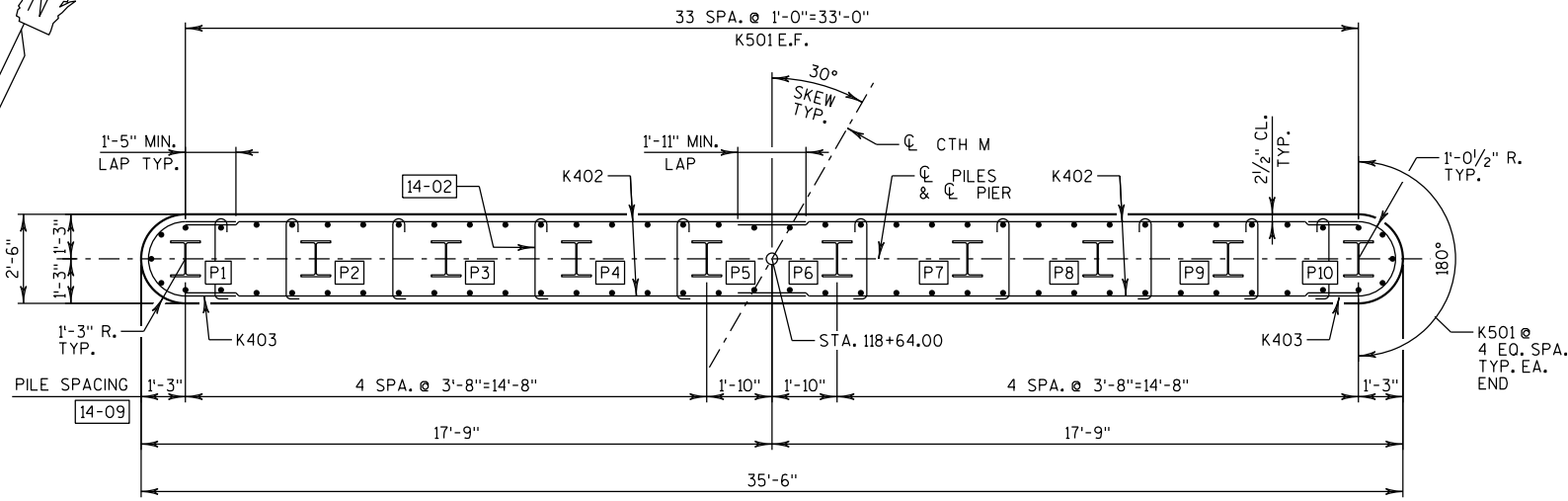
DETAIL "B"



ELEVATION  
(LOOKING NORTH)



PLAN



PILE PLAN

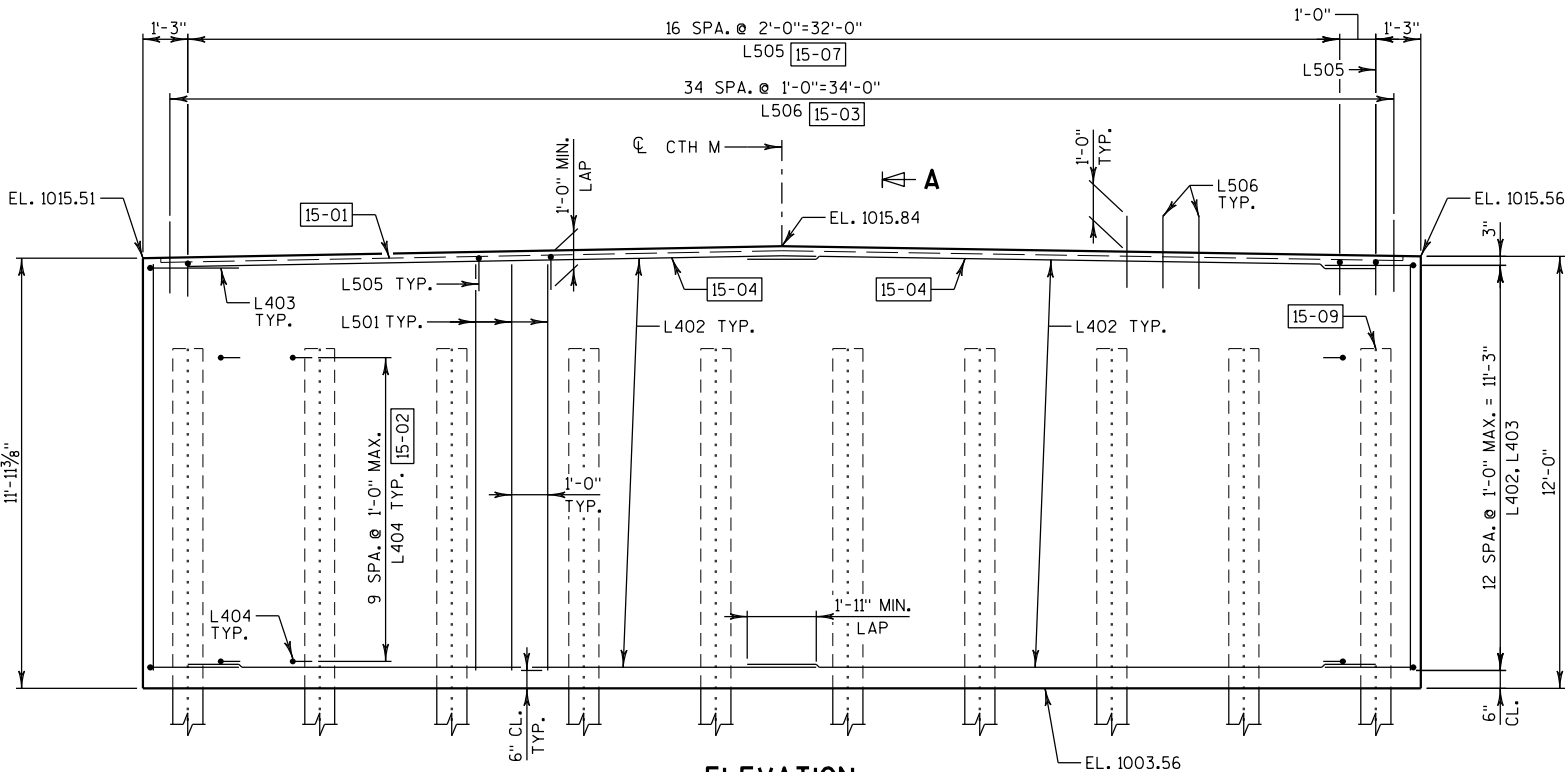
| NO.                                                | DATE | REVISION        | BY             |
|----------------------------------------------------|------|-----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| PIER 3                                             |      |                 | SHEET 14 OF 24 |

BILL OF BARS - PIER 4

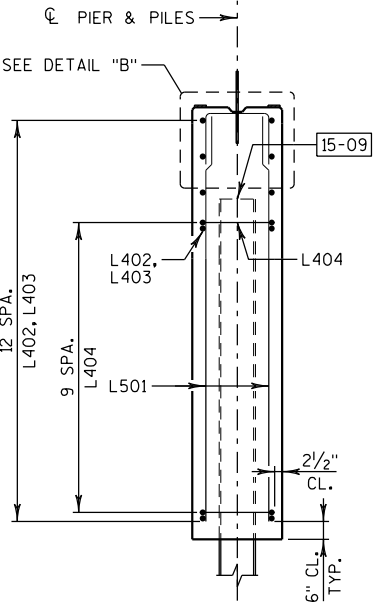
DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| BAR MARK                 | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION        |
|--------------------------|-----------|--------|------|------------|-----------------|
| NON-COATED BARS          |           |        |      |            |                 |
| TOTAL WEIGHT = 1,870 LBS |           |        |      |            |                 |
| L501                     | 74        | 11'-3" |      |            | E.F. VERT.      |
| L402                     | 52        | 17'-6" |      |            | E.F. HORIZ.     |
| L403                     | 26        | 6'-4"  | X    |            | ENDS HORIZ.     |
| L404                     | 100       | 2'-11" | X    |            | TIE BAR HORIZ.  |
| L505                     | 18        | 4'-6"  | X    |            | TOP TIE VERT.   |
| COATED BARS              |           |        |      |            |                 |
| TOTAL WEIGHT = 70 LBS    |           |        |      |            |                 |
| L506                     | 35        | 2'-0"  |      |            | DOWEL BAR VERT. |

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



ELEVATION  
(LOOKING NORTH)



SECTION A-A

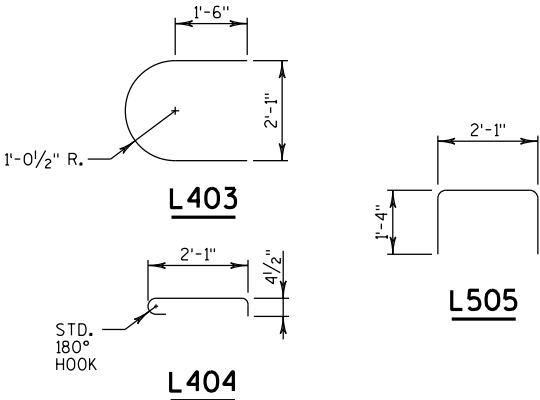
NOTES

AT PIER 4, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

PILE NOTES

PIER TO BE SUPPORTED ON HP 12-INCH x 53 LB STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220\* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65' LONG AT PIER 4. PILE POINTS REQUIRED.

\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.



LEGEND

[PX] INDICATES PILE NUMBER.

[15-01] KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2x6.

[15-02] L404 BARS PLACED ADJACENT TO EACH PILE ONLY. TIE TO THE NEAREST L501 BAR. VERTICAL SPACING TO MATCH TYPICAL L402, L403 SPACING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

[15-03] L506 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE).

[15-04] FIELD BEND TO FOLLOW TOP OF PIER SLOPE.

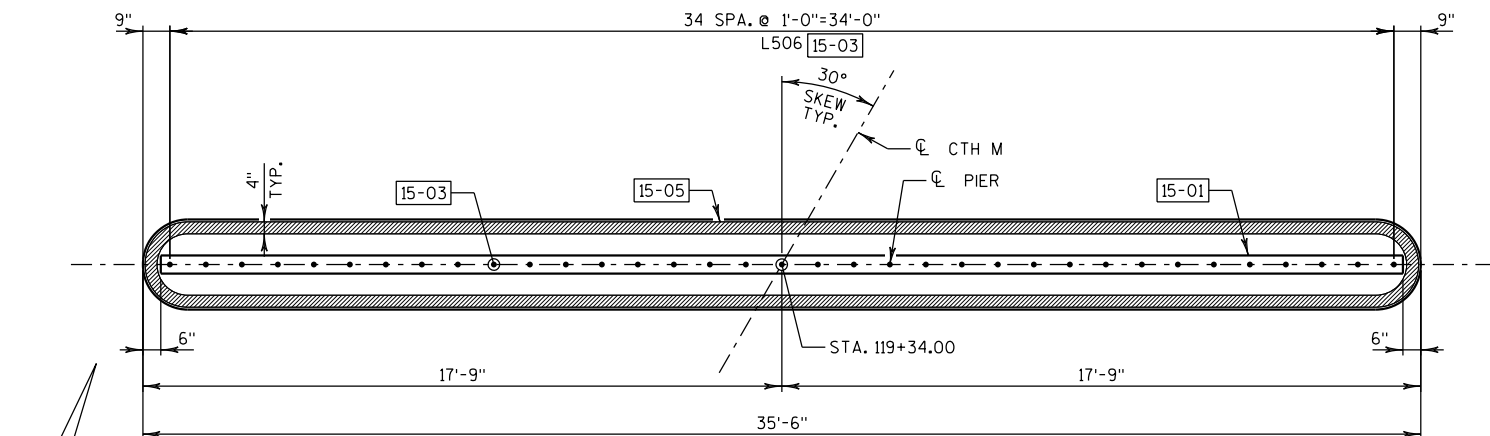
[15-05] 4"x3/4" PREFORMED JOINT FILLER TYP.

[15-06] ELEVATION SHOWN IS TAKEN AT THE C. OF PIER.

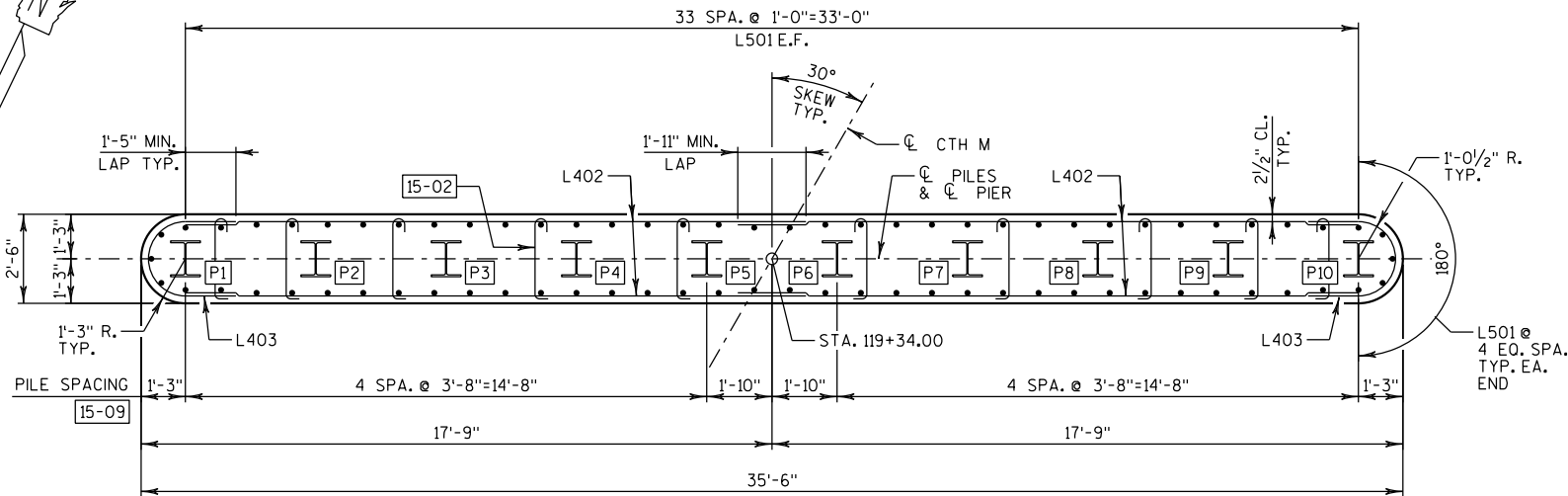
[15-07] PULL UP TO 2" CLEAR.

[15-08] SLOPE TOP OF PIER AS SHOWN.

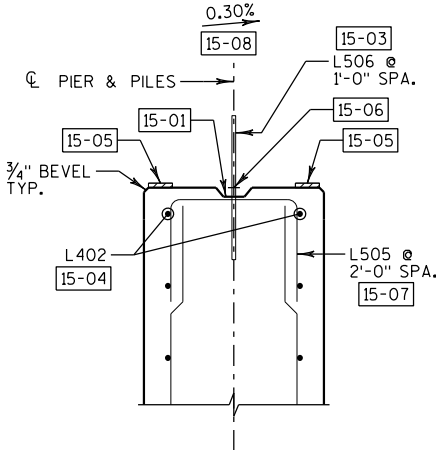
[15-09] TYPICAL TOP OF PILE EL. 1013.00. SEE "PILE NOTES".



PLAN



PILE PLAN



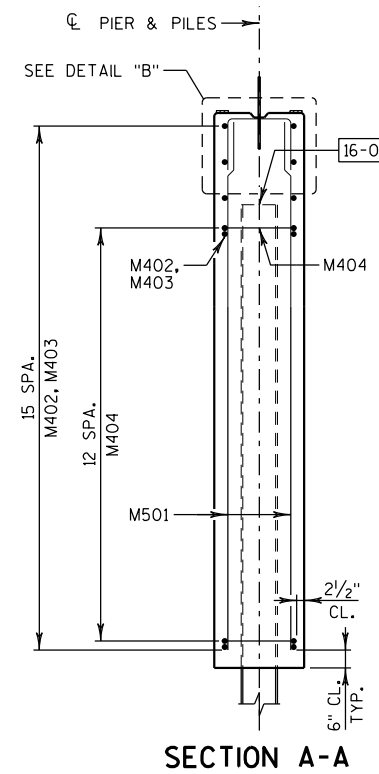
DETAIL "B"

| NO.                                                | DATE | REVISION        | BY             |
|----------------------------------------------------|------|-----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| PIER 4                                             |      |                 | SHEET 15 OF 24 |

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| BAR<br>MARK     | NO.<br>REQ'D | LENGTH | BENT | BAR<br>SERIES | LOCATION                 |
|-----------------|--------------|--------|------|---------------|--------------------------|
| NON-COATED BARS |              |        |      |               | TOTAL WEIGHT = 2,350 LBS |
| M501            | 74           | 14'-8" |      |               | E.F. VERT.               |
| M402            | 64           | 17'-6" |      |               | E.F. HORIZ.              |
| M403            | 32           | 6'-4"  | X    |               | ENDS HORIZ.              |
| M404            | 130          | 2'-11" | X    |               | TIE BAR HORIZ.           |
| M505            | 18           | 4'-6"  | X    |               | TOP TIE VERT.            |
|                 |              |        |      |               |                          |
| COATED BARS     |              |        |      |               | TOTAL WEIGHT = 70 LBS    |
| M506            | 35           | 2'-0"  |      |               | DOWEL BAR VERT.          |
|                 |              |        |      |               |                          |

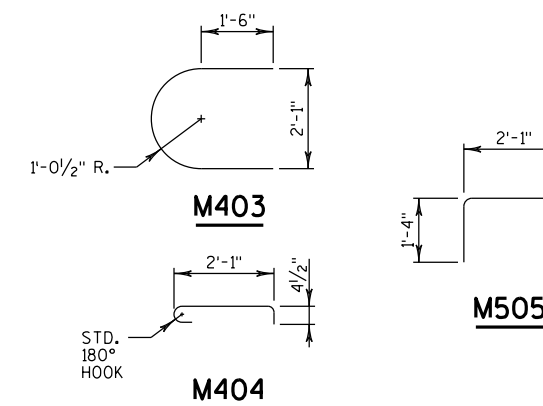
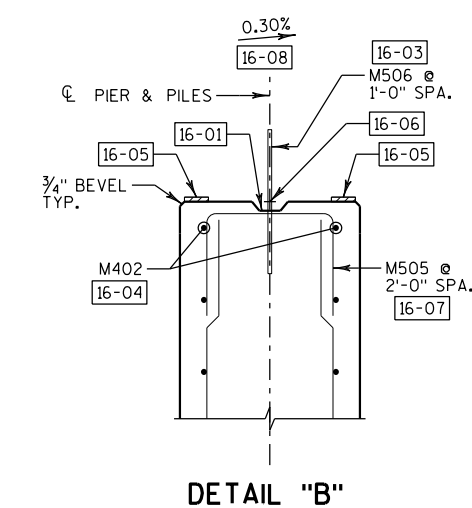
THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.



AT PIER 5, COFFERDAM REQUIRED. CONCRETE  
POURED UNDERWATER WILL BE ALLOWED AND  
SHALL BE DONE IN ACCORDANCE WITH  
STANDARD SPEC 502.3.5.3. CONCRETE POURED  
UNDERWATER SHALL NOT EXCEED 10.0 FEET  
IN DEPTH, UNLESS APPROVED OTHERWISE.

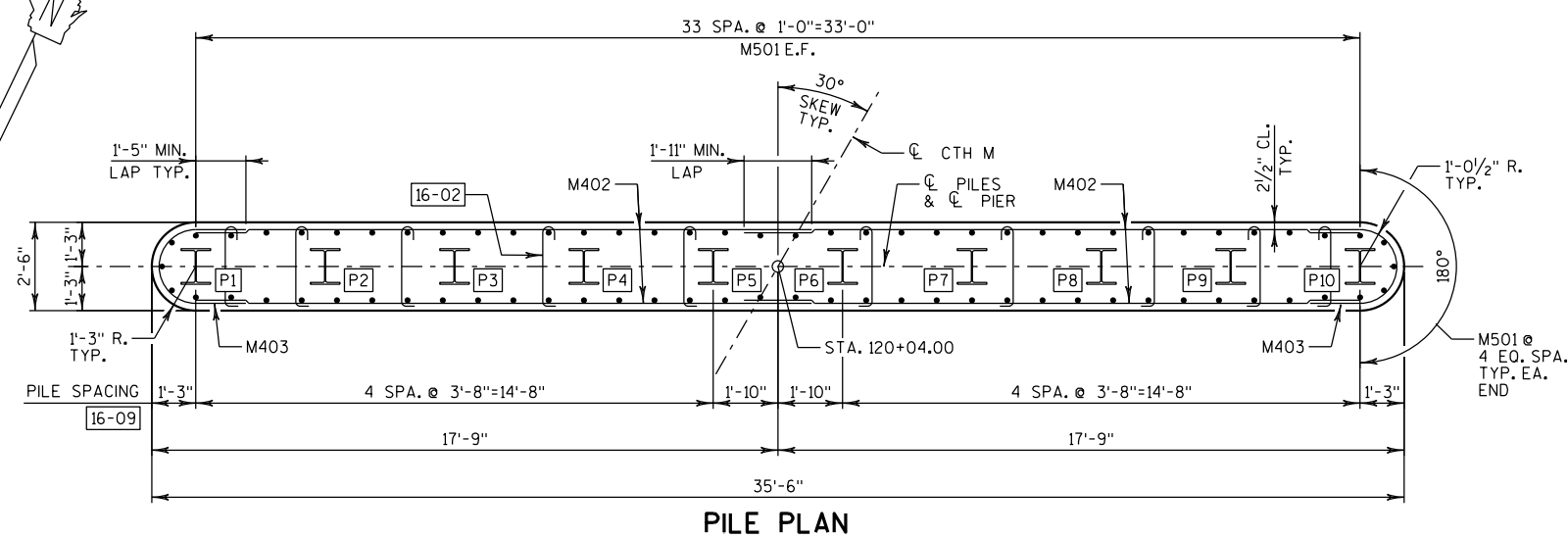
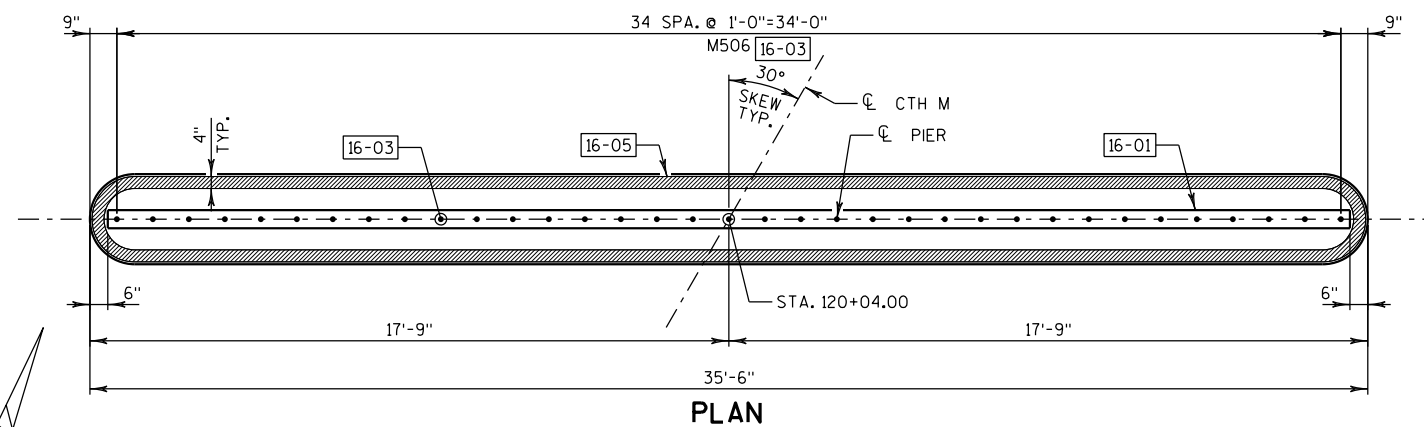
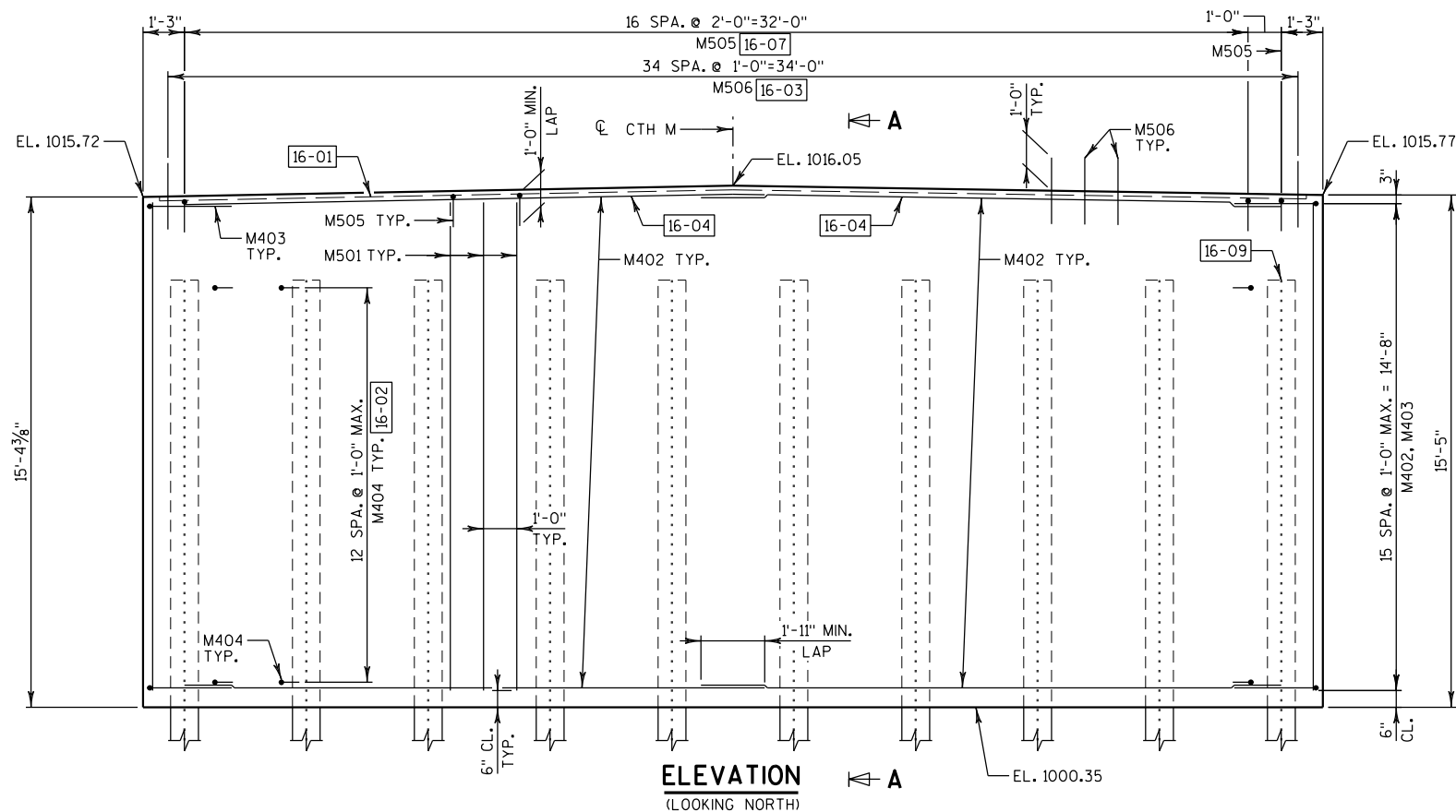
PIER TO BE SUPPORTED ON HP 12-INCH x 53  
LB STEEL PILING DRIVEN TO A REQUIRED  
DRIVING RESISTANCE OF 220\* TONS PER PILE  
AS DETERMINED BY THE MODIFIED GATES  
DYNAMIC FORMULA. ESTIMATED 55' LONG AT  
PIER 5. PILE POINTS REQUIRED.

\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.



PX INDICATES PILE NUMBER.

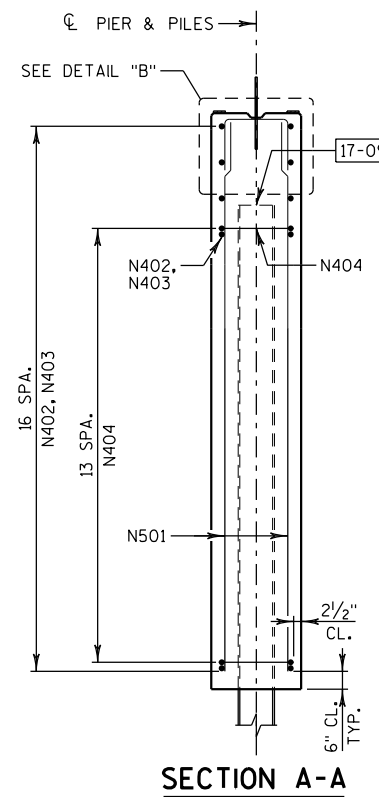
- 16-01 KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2x6.
- 16-02 M404 BARS PLACED ADJACENT TO EACH PILE ONLY. TIE TO THE NEAREST M501 BAR. VERTICAL SPACING TO MATCH TYPICAL M402, M403 SPACING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- 16-03 M506 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE).
- 16-04 FIELD BEND TO FOLLOW TOP OF PIER SLOPE.
- 16-05 4"x $\frac{3}{4}$ " PREFORMED JOINT FILLER TYP.
- 16-06 ELEVATION SHOWN IS TAKEN AT THE C OF PIER.
- 16-07 PULL UP TO 2" CLEAR.
- 16-08 SLOPE TOP OF PIER AS SHOWN.
- 16-09 TYPICAL TOP OF PILE EL. 1013.22.  
SEE "PILE NOTES".



DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

| DIMENSIONS OF BENDING SERIES ARE GOVT. SUPPLY SPEC. |           |        |      |            |                          |
|-----------------------------------------------------|-----------|--------|------|------------|--------------------------|
| BAR MARK                                            | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION                 |
| NON-COATED BARS                                     |           |        |      |            | TOTAL WEIGHT = 2,470 LBS |
| N501                                                | 74        | 15'-2" |      |            | E. F. VERT.              |
| N402                                                | 68        | 17'-6" |      |            | E. F. HORIZ.             |
| N403                                                | 34        | 6'-4"  | X    |            | ENDS HORIZ.              |
| N404                                                | 140       | 2'-11" | X    |            | TIE BAR HORIZ.           |
| N505                                                | 18        | 4'-6"  | X    |            | TOP TIE VERT.            |
| COATED BARS                                         |           |        |      |            | TOTAL WEIGHT = 70 LBS    |
| N506                                                | 35        | 2'-0"  |      |            | DOWEL BAR VERT.          |

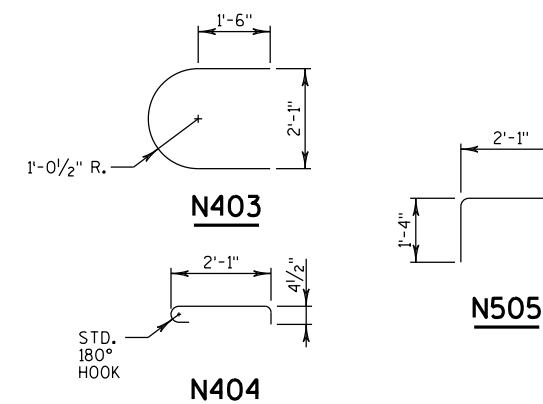
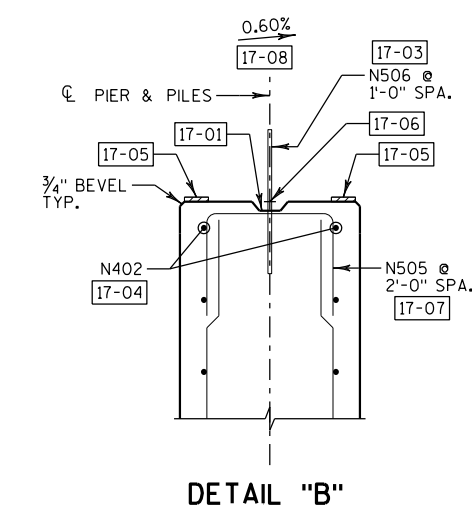
THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE



AT PIER 6, COFFERDAM REQUIRED. CONCRETE  
POURED UNDERWATER WILL BE ALLOWED AND  
SHALL BE DONE IN ACCORDANCE WITH  
STANDARD SPEC 502.3.5.3. CONCRETE POURED  
UNDERWATER SHALL NOT EXCEED 10.0 FEET  
IN DEPTH, UNLESS APPROVED OTHERWISE.

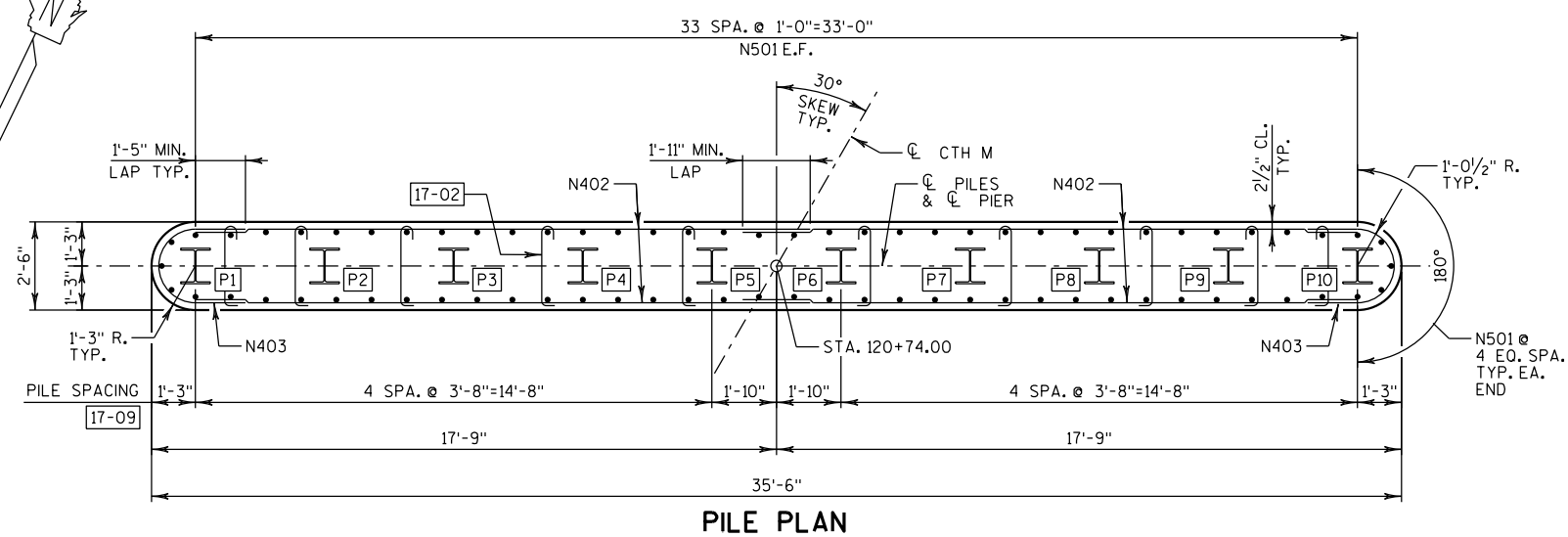
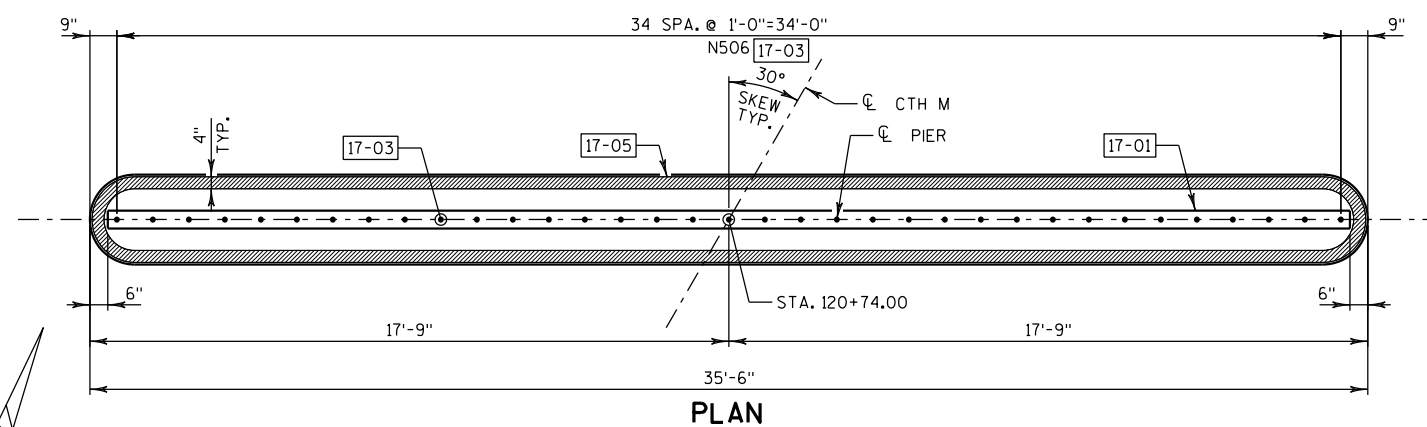
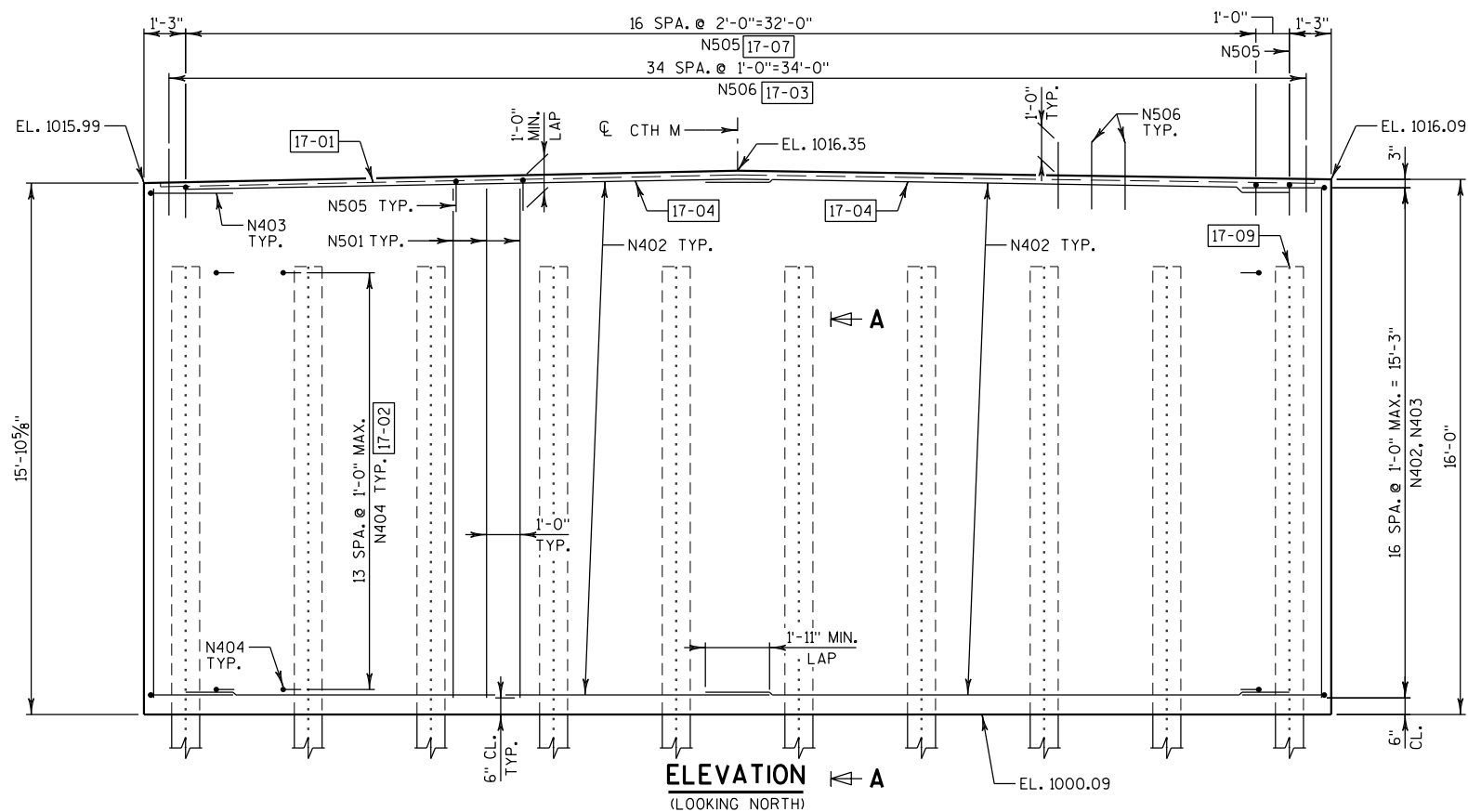
PIER TO BE SUPPORTED ON HP 12-INCH x 53  
LB STEEL PILING DRIVEN TO A REQUIRED  
DRIVING RESISTANCE OF 220\* TONS PER PILE  
AS DETERMINED BY THE MODIFIED GATES  
DYNAMIC FORMULA. ESTIMATED 50' LONG AT  
PIER 6. PILE POINTS REQUIRED.

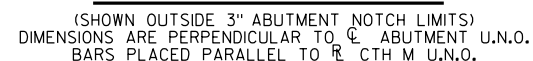
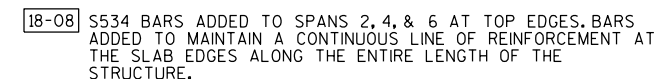
\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.



                      
PX INDICATES PILE NUMBER.

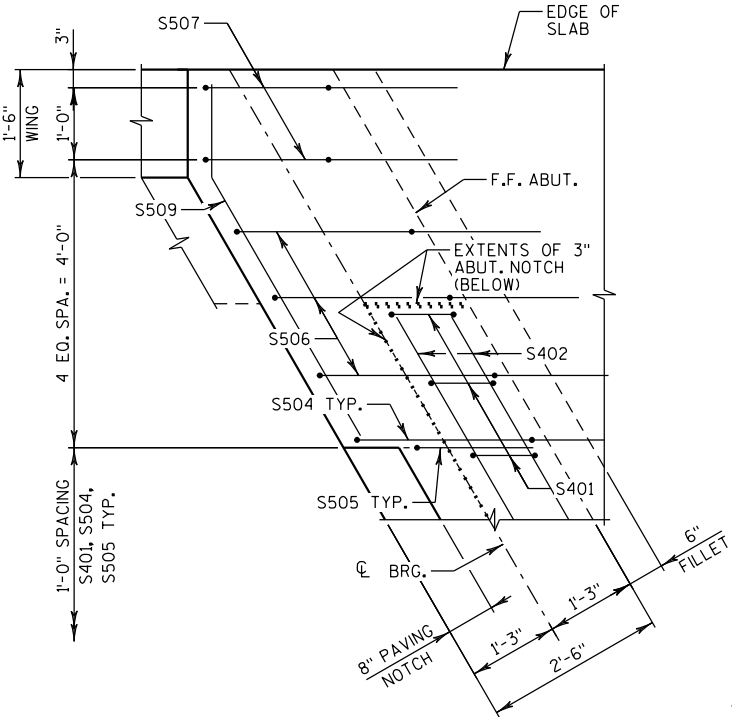
- 17-01 KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2x6.
- 17-02 N404 BARS PLACED ADJACENT TO EACH PILE ONLY. TIE TO THE NEAREST N501 BAR. VERTICAL SPACING TO MATCH TYPICAL N402, N403 SPACING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- 17-03 N506 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE).
- 17-04 FIELD BEND TO FOLLOW TOP OF PIER SLOPE.
- 17-05 4"x $\frac{3}{4}$ " PREFORMED JOINT FILLER TYP.
- 17-06 ELEVATION SHOWN IS TAKEN AT THE C OF PIER.
- 17-07 PULL UP TO 2" CLEAR.
- 17-08 SLOPE TOP OF PIER AS SHOWN.
- 17-09 TYPICAL TOP OF PILE EL. 1013.49.  
SEE "PILE NOTES".



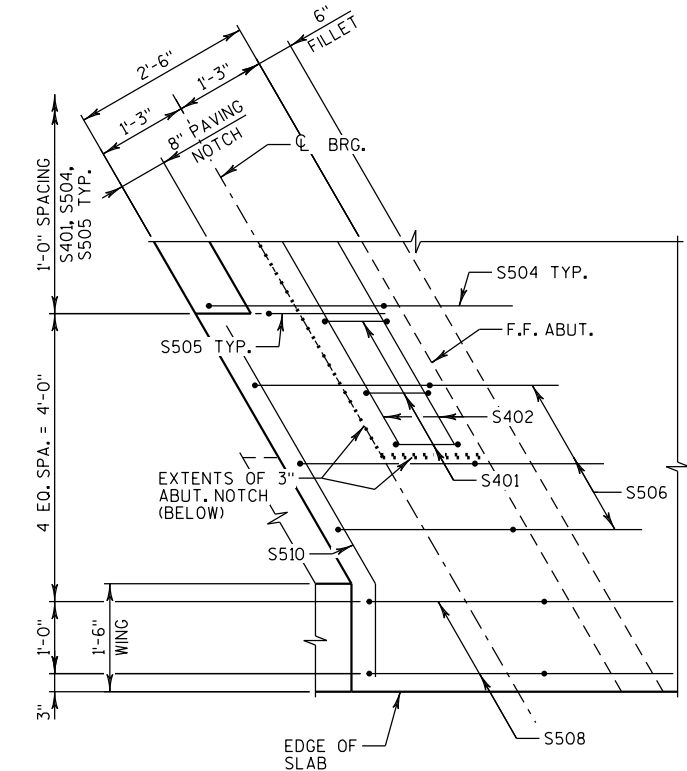


LEGEND

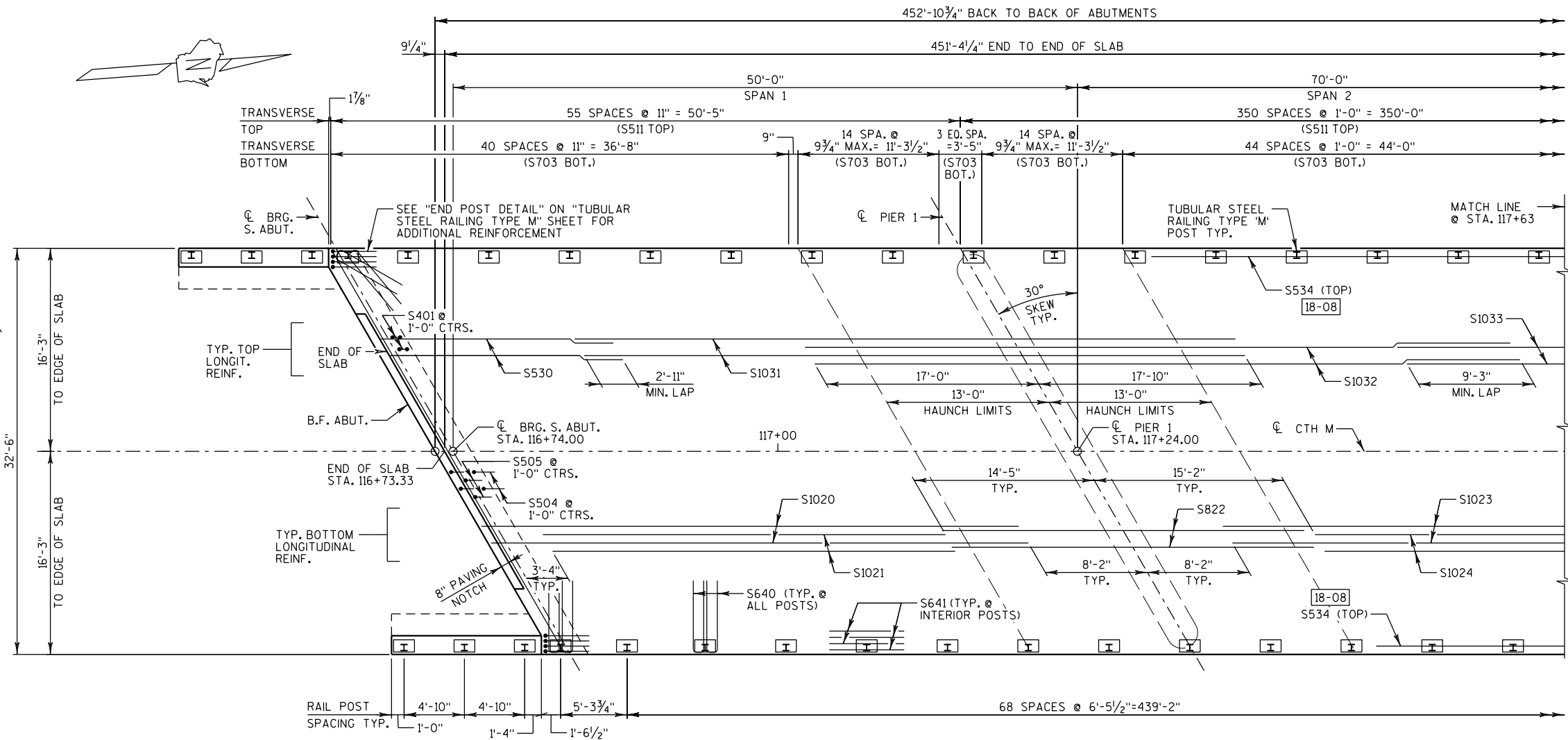
[18-XX] SEE "SUPERSTRUCTRE DETAILS-1" SHEET FOR CALLOUTS AND NOTES.



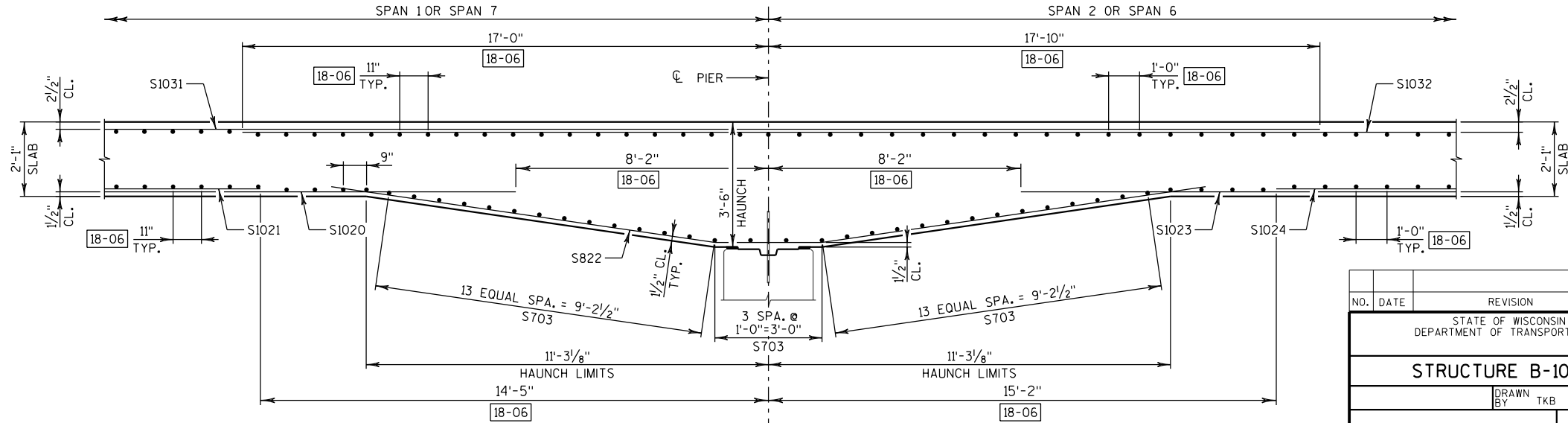
CORNER DETAIL AT WINGS 2 & 4



CORNER DETAIL AT WINGS 1 & 3



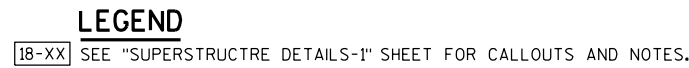
PARTIAL PLAN (SPANS 1-2)



PARTIAL LONGITUDINAL SECTION AT PIERS 1 & 6

(DIMENSIONS ARE PERPENDICULAR TO C PIER U.N.O.)

| NO.                                                | DATE | REVISION        | BY             |
|----------------------------------------------------|------|-----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| SUPERSTRUCTURE<br>DETAILS-2                        |      |                 | SHEET 19 OF 24 |



7839-03-71



CONST. JOINT KEYWAY FORMED BY A BEVELED 2"x8"

S1033

S511

2'-1" SLAB

2'-1" BEAM

2 1/2" CLR.

1 1/2" CLR.

S1023, S1024

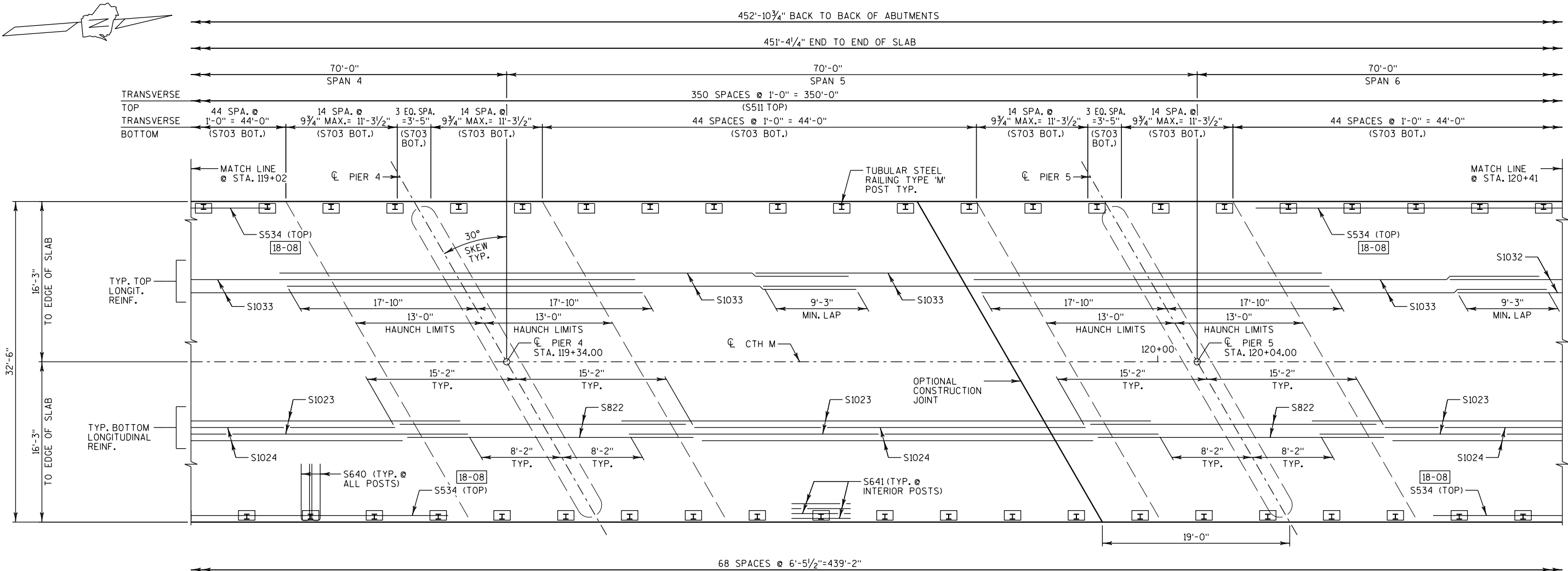
S703

### OPTIONAL TRANSVERSE CONSTRUCTION JOINT

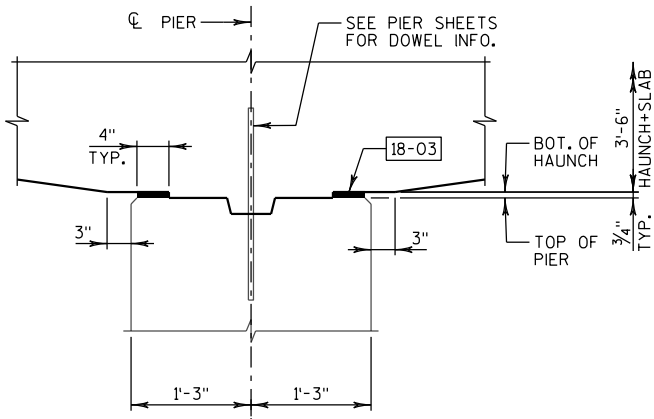
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|----------------------------------------------------|------|----------|-----|----------------|-----|
|                                                    |      |          |     |                |     |
| NO.                                                | DATE | REVISION |     |                | BY  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |     |                |     |
| STRUCTURE B-10-397                                 |      |          |     |                |     |
| DRAWN BY                                           |      |          | TKB | PLANS CK'D.    | ETP |
| SUPERSTRUCTURE<br>DETAILS-3                        |      |          |     | SHEET 20 OF 24 |     |
|                                                    |      |          |     |                |     |

LEGEND

[18-XX] SEE "SUPERSTRUCTRE DETAILS-1" SHEET FOR CALLOUTS AND NOTES.

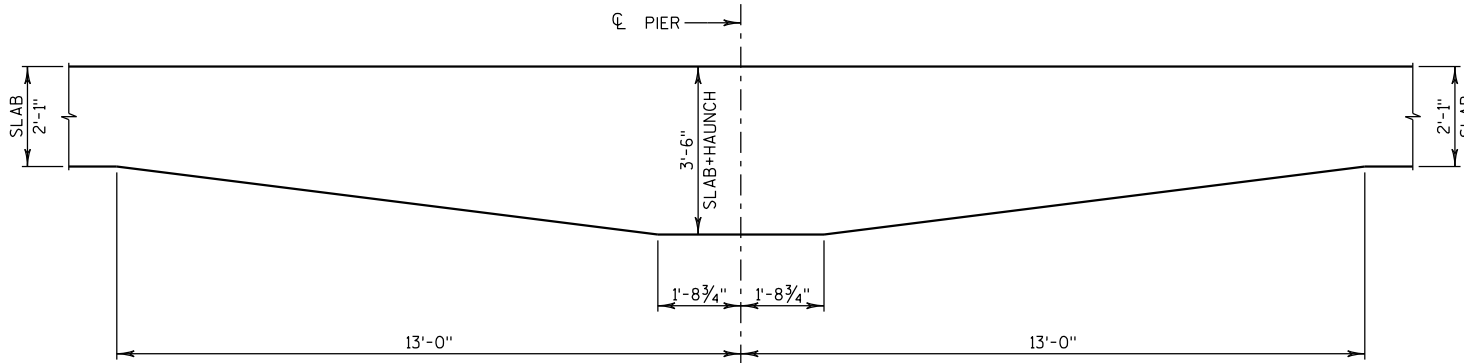


PARTIAL PLAN (SPANS 4-6)



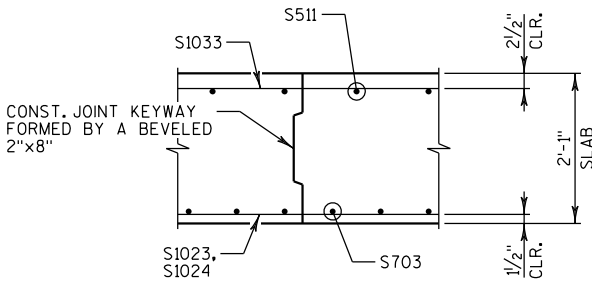
HAUNCH BEARING DETAIL

(DIMENSIONS TAKEN PERPENDICULAR TO PIER)  
(TYPICAL ALL PIERS)



EDGE OF SLAB AT HAUNCH

(DIMENSIONS ARE PARALLEL TO CTH M)  
(REINFORCEMENT NOT SHOWN FOR CLARITY)



OPTIONAL TRANSVERSE CONSTRUCTION JOINT

| NO.                                                | DATE | REVISION        | BY             |
|----------------------------------------------------|------|-----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| SUPERSTRUCTURE DETAILS-4                           |      |                 | SHEET 21 OF 24 |

BILL OF BARS - SUPERSTRUCTURE

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

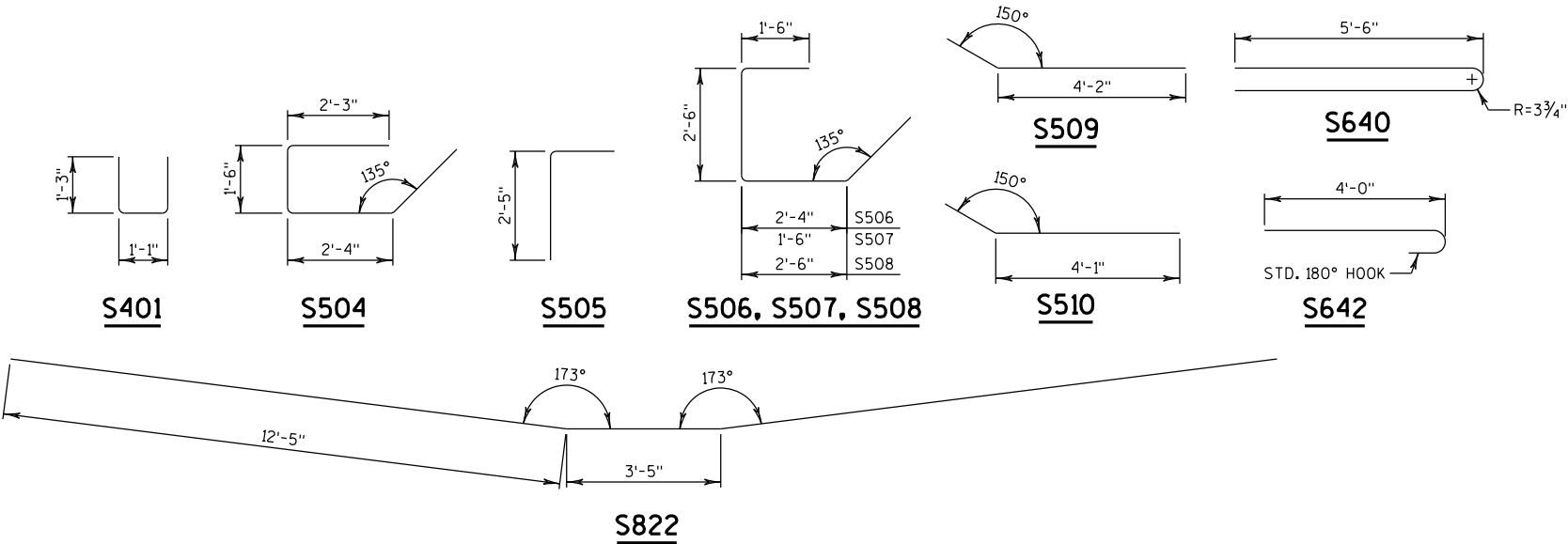
| BAR MARK    | NO. REQ'D | LENGTH  | BENT | BAR SERIES | LOCATION                                        |
|-------------|-----------|---------|------|------------|-------------------------------------------------|
| COATED BARS |           |         |      |            | TOTAL WEIGHT = 268,310 LBS                      |
| S401        | 54        | 3'-5"   | X    |            | SLAB AT ABUTMENT NOTCH VERT.                    |
| S402        | 4         | 29'-8"  |      |            | SLAB AT ABUTMENT NOTCH TRANS.                   |
| S703        | 489       | 37'-2"  |      |            | SLAB BTM. TRANS.                                |
| S504        | 46        | 7'-10"  | X    |            | SLAB AT ABUTMENT VERT.                          |
| S505        | 46        | 3'-10"  | X    |            | SLAB AT ABUTMENT VERT.                          |
| S506        | 12        | 8'-1"   | X    |            | SLAB AT ABUTMENT ENDS VERT.                     |
| S507        | 4         | 7'-3"   | X    |            | SLAB AT ABUTMENT ENDS NEAR W2 & W4 VERT.        |
| S508        | 4         | 8'-3"   | X    |            | SLAB AT ABUTMENT ENDS NEAR W1 & W3 VERT.        |
| S509        | 2         | 5'-5"   | X    |            | SLAB AT ABUTMENT ENDS NEAR W2 & W4 TRANS.       |
| S510        | 2         | 5'-5"   | X    |            | SLAB AT ABUTMENT ENDS NEAR W1 & W3 TRANS.       |
| S511        | 469       | 37'-2"  |      |            | SLAB TOP & ABUT. DIAPHRAGMS TRANS.              |
| S1020       | 60        | 43'-1"  |      |            | SLAB - BTM. SPANS 1 & 7 LONGIT.                 |
| S1021       | 60        | 32'-3"  |      |            | SLAB - BTM. SPANS 1 & 7 LONGIT.                 |
| S822        | 186       | 28'-3"  | X    |            | SLAB - BTM. HAUNCH LONGIT.                      |
| S1023       | 150       | 53'-8"  |      |            | SLAB - BTM. SPANS 2, 3, 4, 5, 6 LONGIT.         |
| S1024       | 150       | 39'-8"  |      |            | SLAB - BTM. SPANS 2, 3, 4, 5, 6 LONGIT.         |
| S530        | 74        | 19'-2"  |      |            | SLAB - TOP, SPANS 1 & 7 LONGIT.                 |
| S1031       | 74        | 52'-11" |      |            | SLAB - TOP, OVER PIERS 1 & 6 LONGIT.            |
| S1032       | 72        | 56'-8"  |      |            | SLAB - TOP, OVER PIERS 1 & 6 LONGIT.            |
| S1033       | 292       | 57'-6"  |      |            | SLAB - TOP, OVER PIERS 2, 3, 4, 5 LONGIT.       |
| S534        | 6         | 40'-2"  |      |            | SLAB - TOP, OVER SPANS 2, 4, 6 AT EDGES LONGIT. |
| S640        | 284       | 11'-4"  | X    |            | SLAB - TOP AT RAIL POSTS TRANS.                 |
| S641        | 552       | 6'-0"   |      |            | SLAB - TOP AT INT. RAIL POSTS LONGIT.           |
| S642        | 16        | 4'-8"   | X    |            | SLAB - TOP AT EXT. RAIL POSTS LONGIT.           |

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

LEGEND

[18-XX] SEE "SUPERSTRUCTRE DETAILS-1" SHEET FOR CALLOUTS AND NOTES.

PARTIAL PLAN (SPANS 6-7)



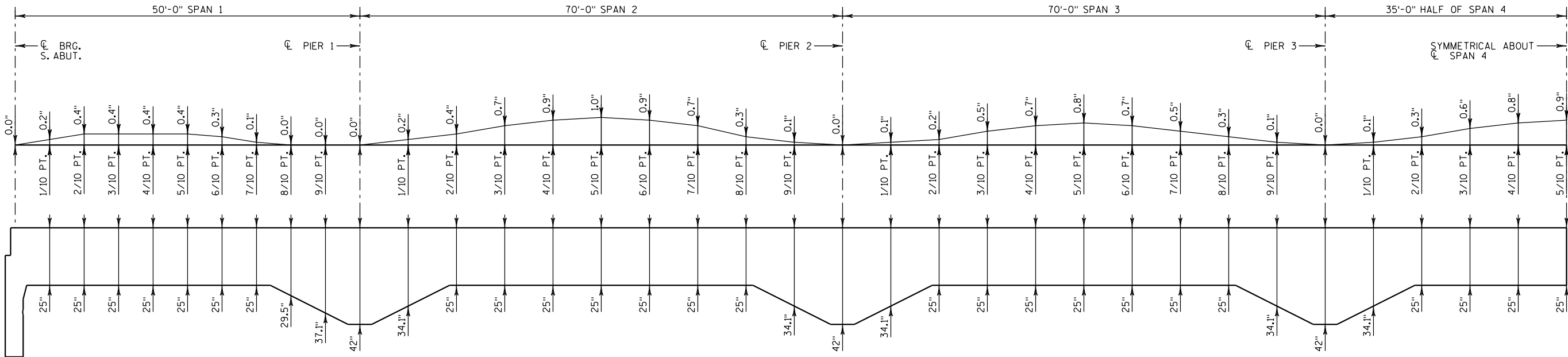
|                                                    |      |                 |                |
|----------------------------------------------------|------|-----------------|----------------|
| NO.                                                | DATE | REVISION        | BY             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| SUPERSTRUCTURE<br>DETAILS-5                        |      |                 | SHEET 22 OF 24 |

TOP OF SLAB ELEVATIONS

| LOCATION          | S. ABUT. | 1.1 PT  | 1.2 PT  | 1.3 PT  | 1.4 PT  | 1.5 PT  | 1.6 PT  | 1.7 PT  | 1.8 PT  | 1.9 PT  | PIER 1  | 2.1 PT  | 2.2 PT  | 2.3 PT  | 2.4 PT  | 2.5 PT  | 2.6 PT  | 2.7 PT  | 2.8 PT  | 2.9 PT  | PIER 2  | 3.1 PT  | 3.2 PT  | 3.3 PT  | 3.4 PT  | 3.5 PT  | 3.6 PT  | 3.7 PT  | 3.8 PT  | 3.9 PT  | PIER 3  |
|-------------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| WEST EDGE OF SLAB | 1018.27  | 1018.29 | 1018.30 | 1018.31 | 1018.33 | 1018.34 | 1018.36 | 1018.37 | 1018.39 | 1018.40 | 1018.42 | 1018.44 | 1018.46 | 1018.48 | 1018.50 | 1018.52 | 1018.55 | 1018.57 | 1018.59 | 1018.61 | 1018.63 | 1018.65 | 1018.67 | 1018.69 | 1018.71 | 1018.73 | 1018.76 | 1018.78 | 1018.80 | 1018.82 | 1018.84 |
| CROWN             | 1018.62  | 1018.64 | 1018.65 | 1018.67 | 1018.68 | 1018.70 | 1018.71 | 1018.73 | 1018.74 | 1018.76 | 1018.77 | 1018.79 | 1018.82 | 1018.84 | 1018.86 | 1018.88 | 1018.90 | 1018.92 | 1018.94 | 1018.96 | 1018.98 | 1019.00 | 1019.03 | 1019.05 | 1019.07 | 1019.09 | 1019.11 | 1019.13 | 1019.15 | 1019.17 | 1019.19 |
| EAST EDGE OF SLAB | 1018.33  | 1018.34 | 1018.36 | 1018.37 | 1018.39 | 1018.40 | 1018.42 | 1018.43 | 1018.45 | 1018.46 | 1018.48 | 1018.50 | 1018.52 | 1018.54 | 1018.56 | 1018.58 | 1018.60 | 1018.62 | 1018.64 | 1018.67 | 1018.69 | 1018.71 | 1018.73 | 1018.75 | 1018.77 | 1018.79 | 1018.81 | 1018.83 | 1018.85 | 1018.88 | 1018.90 |

| LOCATION          | PIER 3  | 4.1 PT  | 4.2 PT  | 4.3 PT  | 4.4 PT  | 4.5 PT  | 4.6 PT  | 4.7 PT  | 4.8 PT  | 4.9 PT  | PIER 4  | 5.1 PT  | 5.2 PT  | 5.3 PT  | 5.4 PT  | 5.5 PT  | 5.6 PT  | 5.7 PT  | 5.8 PT  | 5.9 PT  | PIER 5  | 6.1 PT  | 6.2 PT  | 6.3 PT  | 6.4 PT  | 6.5 PT  | 6.6 PT  | 6.7 PT  | 6.8 PT  | 6.9 PT  | PIER 6  |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| WEST EDGE OF SLAB | 1018.84 | 1018.86 | 1018.88 | 1018.90 | 1018.92 | 1018.94 | 1018.97 | 1018.99 | 1019.01 | 1019.03 | 1019.05 | 1019.07 | 1019.09 | 1019.11 | 1019.13 | 1019.15 | 1019.18 | 1019.20 | 1019.22 | 1019.24 | 1019.26 | 1019.28 | 1019.30 | 1019.32 | 1019.34 | 1019.37 | 1019.39 | 1019.42 | 1019.46 | 1019.49 | 1019.53 |
| CROWN             | 1019.19 | 1019.21 | 1019.24 | 1019.26 | 1019.28 | 1019.30 | 1019.32 | 1019.34 | 1019.36 | 1019.38 | 1019.40 | 1019.42 | 1019.45 | 1019.47 | 1019.49 | 1019.51 | 1019.53 | 1019.55 | 1019.57 | 1019.59 | 1019.61 | 1019.63 | 1019.65 | 1019.68 | 1019.70 | 1019.73 | 1019.76 | 1019.79 | 1019.83 | 1019.87 | 1019.91 |
| EAST EDGE OF SLAB | 1018.90 | 1018.92 | 1018.94 | 1018.96 | 1018.98 | 1019.00 | 1019.02 | 1019.04 | 1019.06 | 1019.09 | 1019.11 | 1019.13 | 1019.15 | 1019.17 | 1019.19 | 1019.21 | 1019.23 | 1019.25 | 1019.27 | 1019.30 | 1019.32 | 1019.34 | 1019.36 | 1019.39 | 1019.41 | 1019.45 | 1019.48 | 1019.52 | 1019.56 | 1019.60 | 1019.64 |

| LOCATION          | PIER 6  | 7.1 PT  | 7.2 PT  | 7.3 PT  | 7.4 PT  | 7.5 PT  | 7.6 PT  | 7.7 PT  | 7.8 PT  | 7.9 PT  | N. ABUT. |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| WEST EDGE OF SLAB | 1019.53 | 1019.56 | 1019.59 | 1019.62 | 1019.65 | 1019.68 | 1019.72 | 1019.76 | 1019.79 | 1019.83 | 1019.87  |
| CROWN             | 1019.91 | 1019.94 | 1019.97 | 1020.00 | 1020.04 | 1020.08 | 1020.11 | 1020.15 | 1020.19 | 1020.23 | 1020.28  |
| EAST EDGE OF SLAB | 1019.64 | 1019.68 | 1019.71 | 1019.75 | 1019.78 | 1019.82 | 1019.86 | 1019.90 | 1019.95 | 1019.99 | 1020.04  |



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS.  
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD  
DEFLECTION & FUTURE CREEP. CAMBER DOES NOT  
INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR CENTERLINE FOLLOW THIS PROCEDURE:

- TOP OF SLAB ELEVATION AT FINAL GRADE
- MINUS (-) SLAB THICKNESS
- PLUS (+) CAMBER
- PLUS (+) FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
- EQUALS= TOP OF SLAB FALSEWORK ELEVATION.

SURVEY TOP OF SLAB ELEVATIONS

| LOCATION          | S. ABUT. | 5/10 PT | PIER 1 | 5/10 PT | PIER 2 | 5/10 PT | PIER 3 | 5/10 PT | PIER 4 | 5/10 PT | PIER 5 | 5/10 PT | PIER 6 | 5/10 PT | N. ABUT. |
|-------------------|----------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|----------|
| WEST EDGE OF SLAB |          |         |        |         |        |         |        |         |        |         |        |         |        |         |          |
| CROWN             |          |         |        |         |        |         |        |         |        |         |        |         |        |         |          |
| EAST EDGE OF SLAB |          |         |        |         |        |         |        |         |        |         |        |         |        |         |          |

STATE PROJECT NUMBER

7839-03-71

CAMBER NOTES:

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C OF ABUTMENTS, THE C OF PIERS AND AT 5/10 POINTS, TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN POINT. RECORD THE ELEVATIONS IN THE "SURVEY TOP OF SLAB ELEVATIONS" TABLE FOR THE "AS BUILT" PLANS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

|                                                    |      |                 |                |
|----------------------------------------------------|------|-----------------|----------------|
| NO.                                                | DATE | REVISION        | BY             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| STRUCTURE B-10-397                                 |      |                 |                |
| DRAWN BY TKB                                       |      | PLANS CK'D. ETP |                |
| SUPERSTRUCTURE DETAILS-6                           |      |                 | SHEET 23 OF 24 |

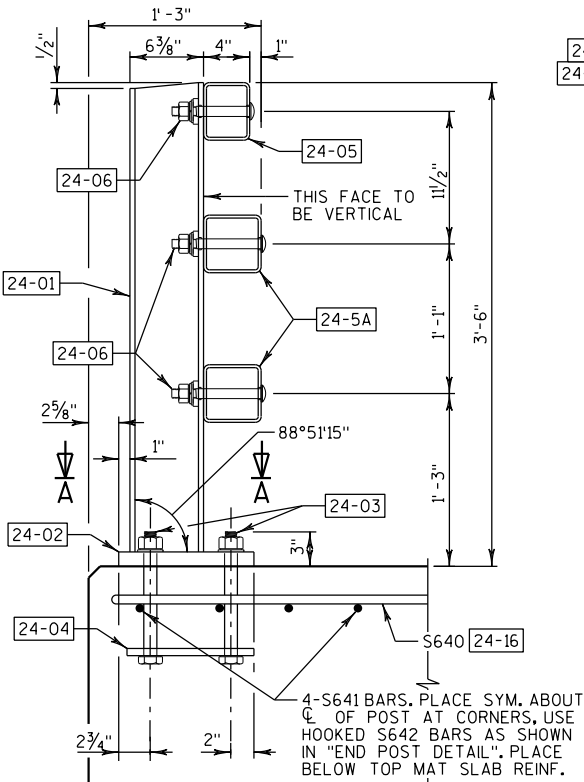
LEGEND

- [24-01] W6x25 WITH 1/8"x1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT 24-06. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- [24-02] PLATE 1/4"x11 3/4"x1'-8" WITH 1 1/8" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS 24-03. WELD TO 24-01 AS SHOWN.
- [24-03] ASTM A449 - 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE 24-02. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. USE 1'-3" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
- [24-04] 5/8"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 1/8" DIA. HOLES FOR ANCHOR BOLTS 24-03.
- [24-05] TS 5x4x0.25 STRUCTURAL TUBING. ATTACH TO 24-01 WITH 24-06.
- [24-5A] TS 5x5x0.25 STRUCTURAL TUBING. ATTACH TO 24-01 WITH 24-06.
- [24-06] 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8"x1 5/8"x1 5/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- [24-07] 1/2" THK. BACK-UP PLATE WITH 2 - 7/8"x1 1/2" THREADED SHOP WELDED STUDS (24-12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES 24-5A.
- [24-08] 1" DIA. HOLES IN PLATE 24-07 & TUBES 24-5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE 24-07.
- [24-09] SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- [24-10] 3/8"x3 5/8"x2'-4" PLATE. 2 PER RAIL. USED IN 24-05 & 24-5A.
- [24-10A] 3/8"x2 5/8"x2'-4" PLATE USED IN 24-05. 3/8"x3 5/8"x2'-4" PLATE USED IN 24-5A. 2 PER RAIL.
- [24-11] 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1 1/4" LONGIT. SLOTTED HOLES IN PLATE 24-10A AT FIELD JOINTS AND 1 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE 24-10A. PROVIDE 1/8" DIA. ROUND HOLES IN TUBES 24-05 AND 24-5A.
- [24-12] 7/8" DIA. x 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- [24-13] 3/8"x8"x1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES 24-5A.
- [24-14] 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- [24-15] 1" DIA. HOLES IN TUBES 24-5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.
- [24-16] TIE BELOW TOP MAT OF STEEL. [24-17] 1/4" TO 3/4".

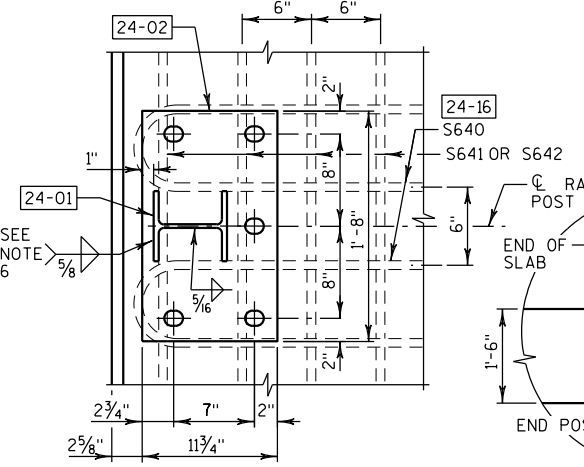
\* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

NOTES

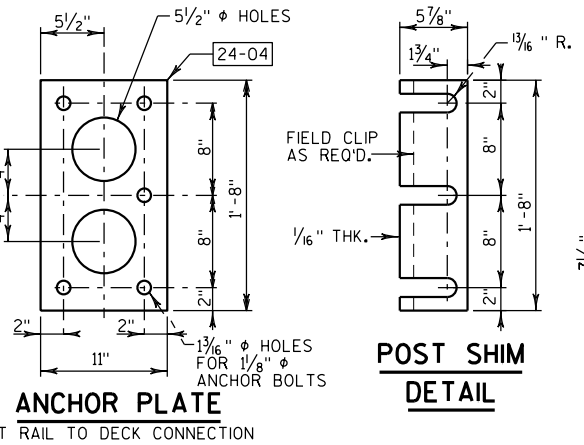
- BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 ksi. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE 24-02 AND CAULK AROUND PERIMETER OF PLATE 24-02 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.



SECTION THRU RAILING ON SLAB

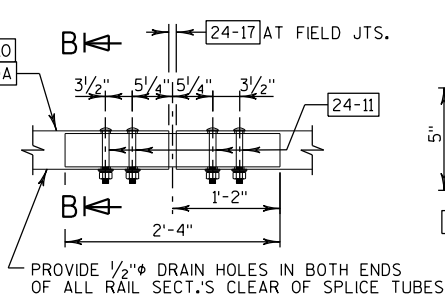


SECTION A-A

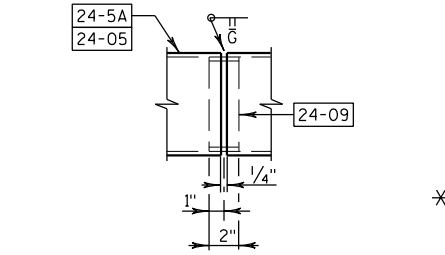


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

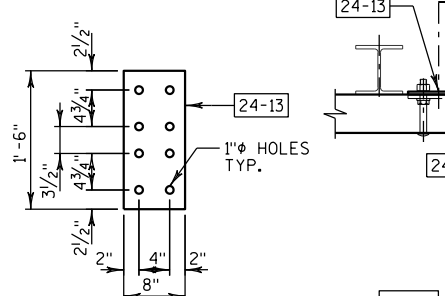


FIELD ERECTION JOINT DETAIL



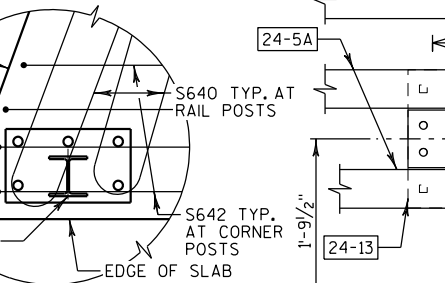
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS



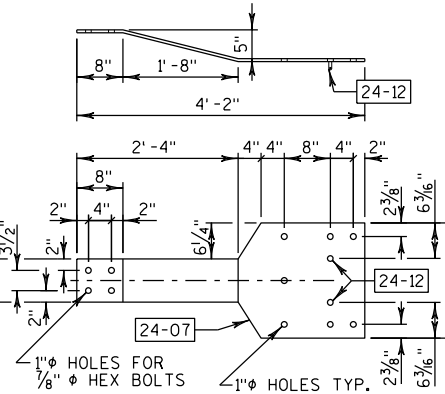
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



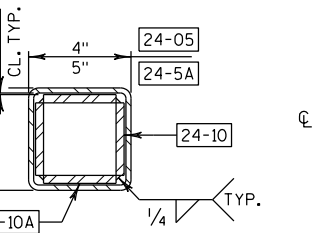
END POST DETAIL

REINFORCEMENT AT CORNERS

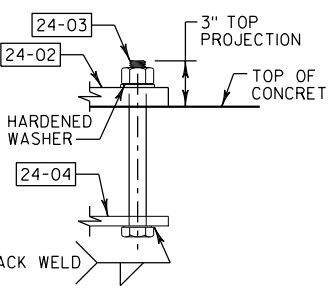


BACK-UP PLATE DETAIL

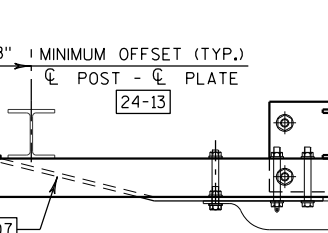
AT BEAM GUARD ATTACHMENT



SECTION B-B

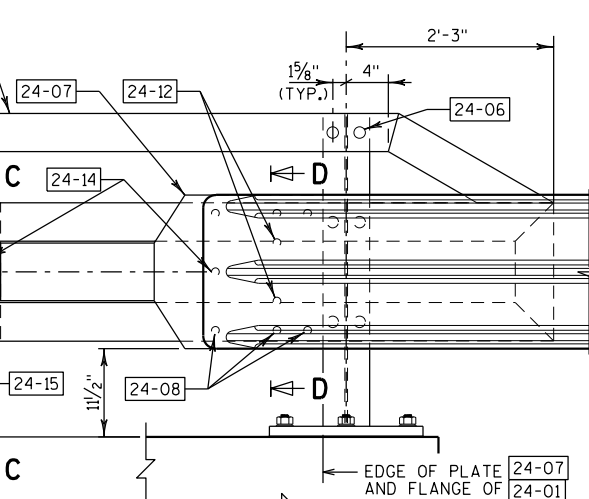


ANCHOR BOLTS



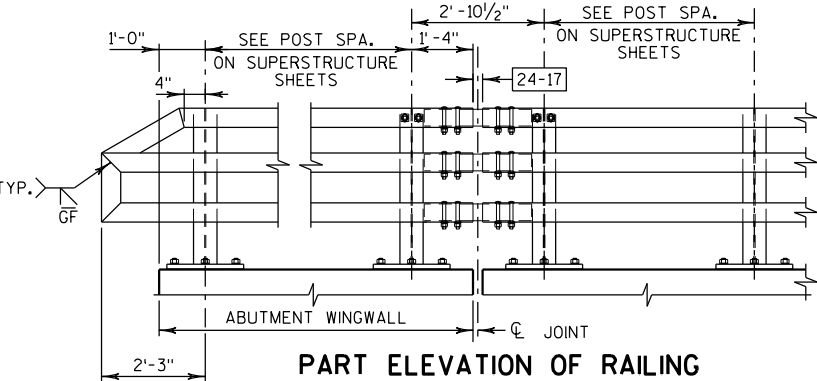
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT

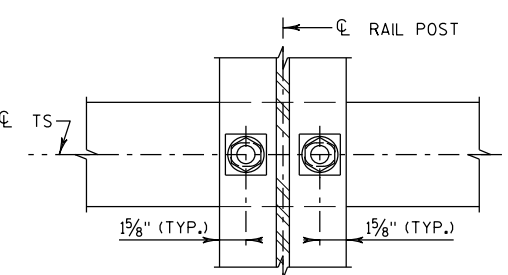


DETAIL AT END POST

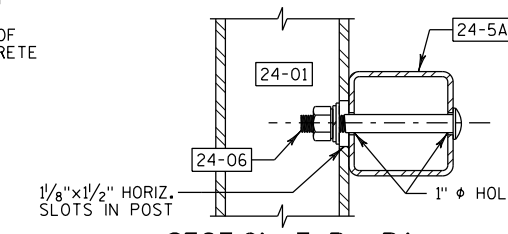
THRIE BEAM RAIL ATTACHMENT



PART ELEVATION OF RAILING



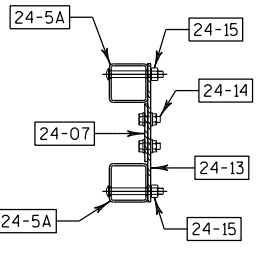
SECTION THRU POST WEB



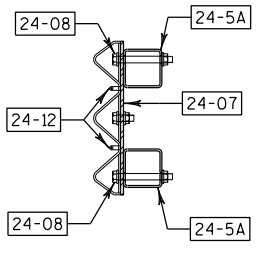
SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C

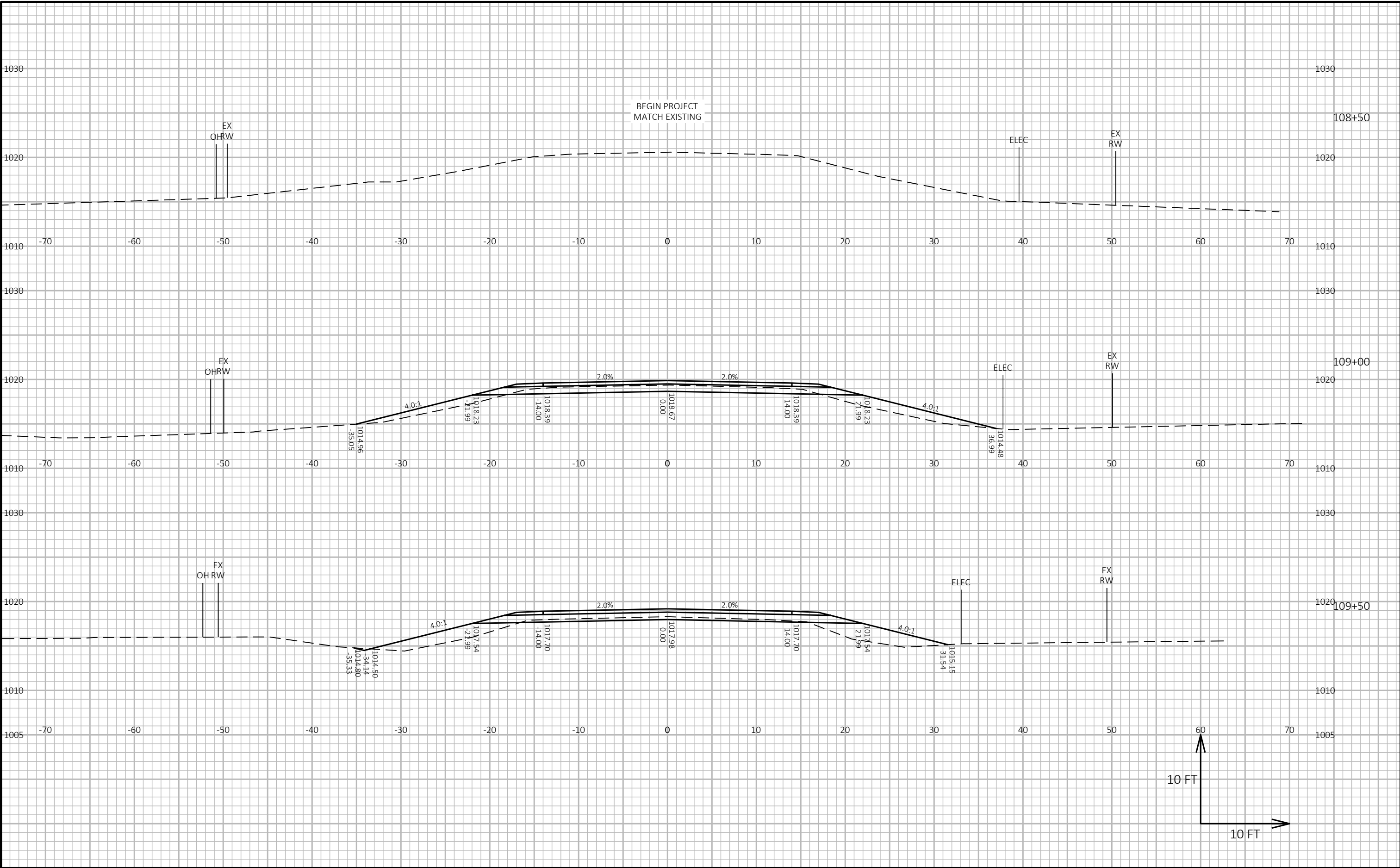


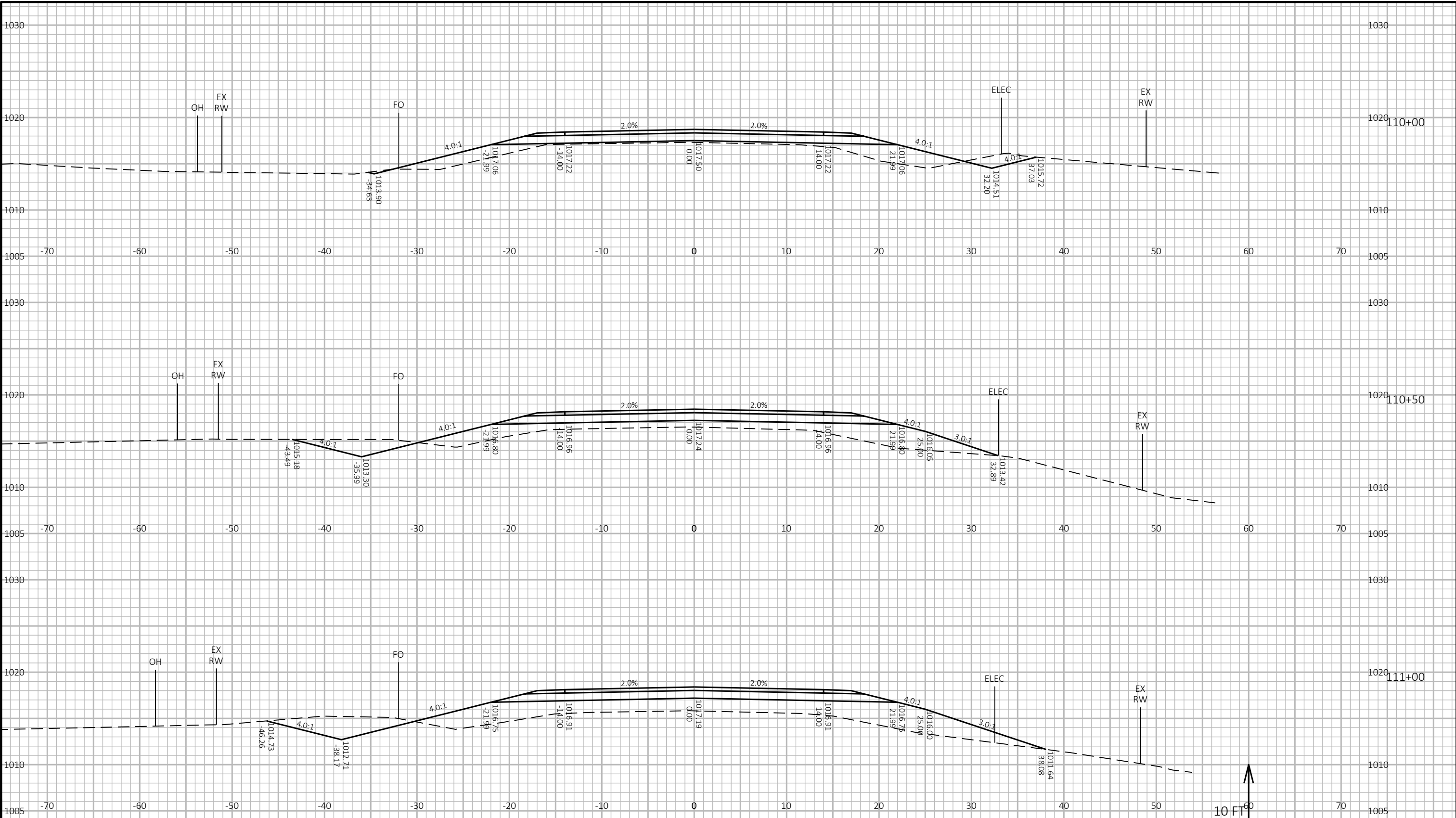
SECTION D-D

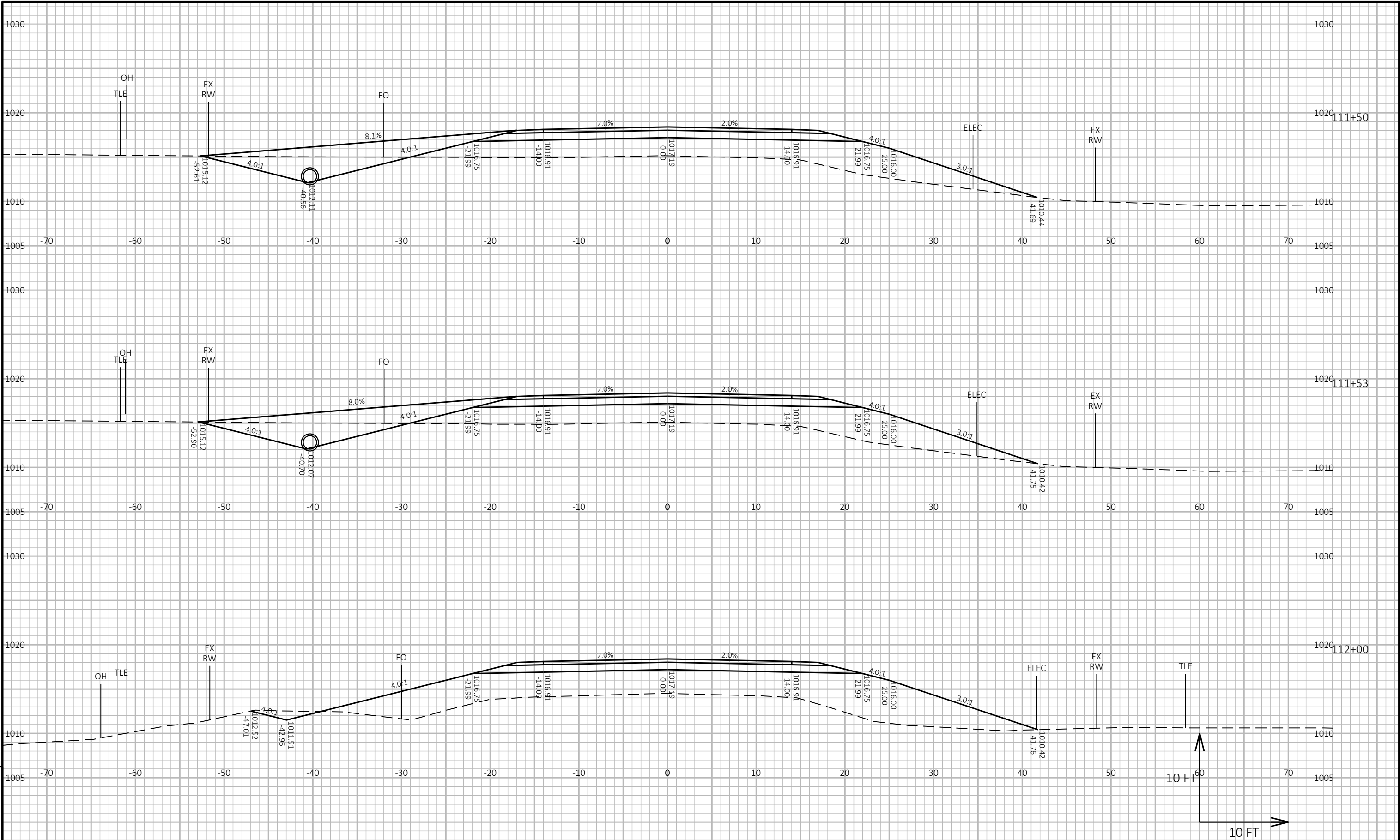
DIVISION – CTH M

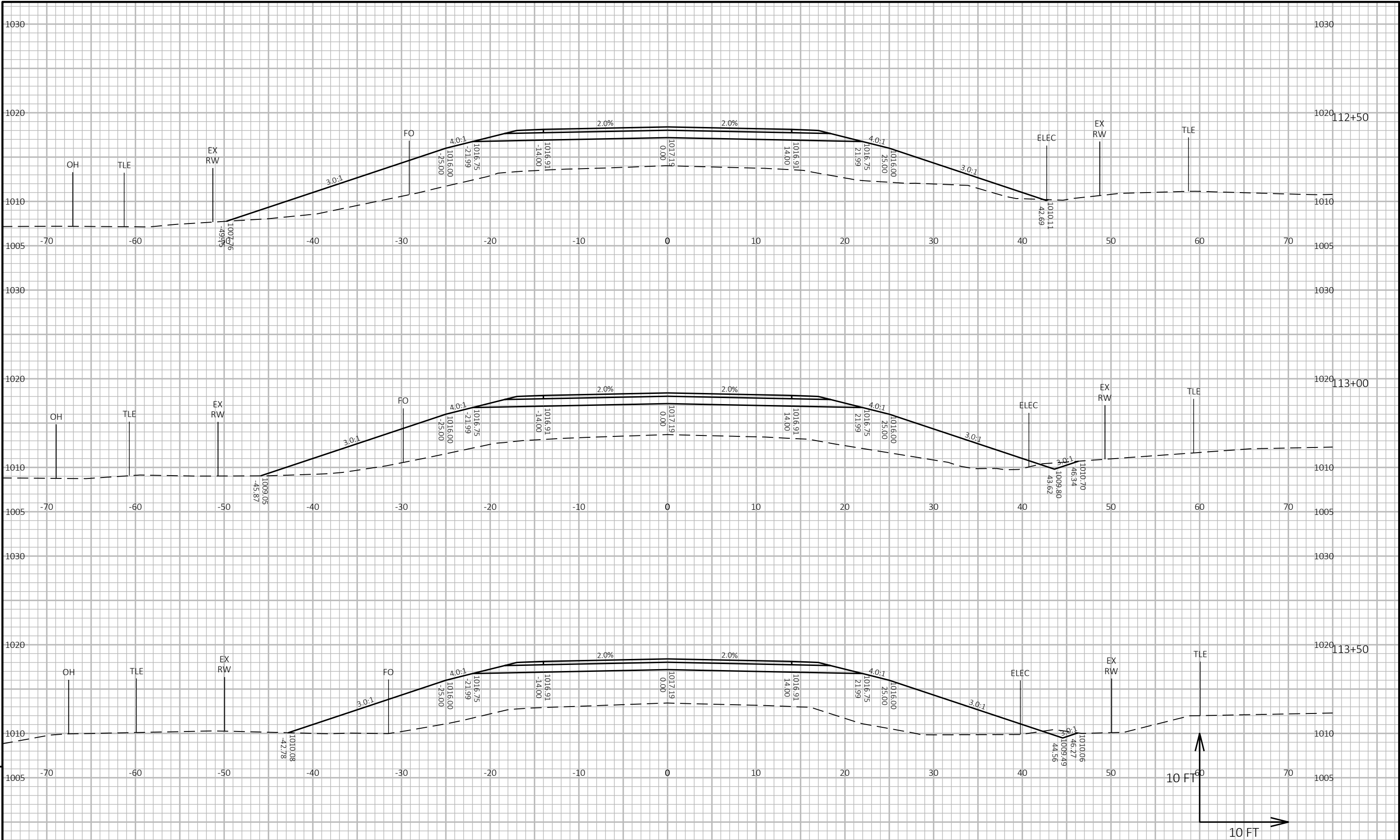
| STATION            | REAL STATION | DISTANCE | AREA (SF) |                                     |        | INCREMENTAL VOL (CY) (UNADJUSTED) |                                     |        | CUMULATIVE VOL (CY) |               |              |
|--------------------|--------------|----------|-----------|-------------------------------------|--------|-----------------------------------|-------------------------------------|--------|---------------------|---------------|--------------|
|                    |              |          | CUT       | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL   | CUT                               | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL   | CUT                 | EXPANDED FILL | MASS ORDNATE |
|                    |              |          |           |                                     |        |                                   |                                     |        |                     |               |              |
|                    |              |          |           |                                     |        | NOTE 1                            | NOTE 2                              | NOTE 3 | NOTE 1              | 1.25          | NOTE 4       |
| 108+50             | 10850.00     | 0.00     | 32.56     | 0.00                                | 2.94   | 0                                 | 0                                   | 0      | 0                   | 0             | 0            |
| 109+00             | 10900.00     | 50.00    | 21.90     | 9.00                                | 12.30  | 50                                | 8                                   | 14     | 50                  | 18            | 25           |
| 109+50             | 10950.00     | 50.00    | 9.00      | 9.00                                | 39.53  | 29                                | 17                                  | 48     | 79                  | 78            | -24          |
| 110+00             | 11000.00     | 50.00    | 9.00      | 9.00                                | 30.83  | 17                                | 17                                  | 65     | 96                  | 159           | -105         |
| 110+50             | 11050.00     | 50.00    | 9.00      | 9.00                                | 67.06  | 17                                | 17                                  | 91     | 113                 | 273           | -219         |
| 111+00             | 11100.00     | 50.00    | 9.00      | 9.00                                | 108.64 | 17                                | 17                                  | 163    | 130                 | 476           | -422         |
| 111+50             | 11150.00     | 50.00    | 9.00      | 9.00                                | 134.88 | 17                                | 17                                  | 225    | 147                 | 758           | -704         |
| 111+53             | 11153.00     | 3.00     | 9.00      | 9.00                                | 137.90 | 1                                 | 1                                   | 15     | 148                 | 776           | -722         |
| 112+00             | 11200.00     | 47.00    | 9.00      | 9.00                                | 218.41 | 16                                | 16                                  | 310    | 164                 | 1,164         | -1,110       |
| 112+50             | 11250.00     | 50.00    | 9.00      | 9.00                                | 264.30 | 17                                | 17                                  | 447    | 181                 | 1,723         | -1,669       |
| 113+00             | 11300.00     | 50.00    | 9.00      | 9.00                                | 287.47 | 17                                | 17                                  | 511    | 198                 | 2,361         | -2,307       |
| 113+50             | 11350.00     | 50.00    | 9.00      | 9.00                                | 309.12 | 17                                | 17                                  | 552    | 215                 | 3,051         | -2,997       |
| 114+00             | 11400.00     | 50.00    | 9.00      | 9.00                                | 356.17 | 17                                | 17                                  | 616    | 232                 | 3,821         | -3,767       |
| 114+50             | 11450.00     | 50.00    | 13.54     | 9.00                                | 393.96 | 21                                | 17                                  | 695    | 253                 | 4,690         | -4,632       |
| 114+92             | 11491.55     | 41.55    | 14.68     | 9.00                                | 413.40 | 22                                | 14                                  | 621    | 275                 | 5,466         | -5,400       |
| 115+00             | 11500.00     | 8.45     | 13.58     | 9.00                                | 412.19 | 4                                 | 3                                   | 129    | 279                 | 5,628         | -5,561       |
| 115+17             | 11516.56     | 16.56    | 9.00      | 9.00                                | 419.60 | 7                                 | 6                                   | 255    | 286                 | 5,946         | -5,878       |
| 115+42             | 11541.54     | 24.98    | 9.00      | 9.00                                | 387.95 | 8                                 | 8                                   | 374    | 294                 | 6,414         | -6,346       |
| 115+50             | 11549.52     | 7.98     | 9.00      | 9.00                                | 391.97 | 3                                 | 3                                   | 115    | 297                 | 6,558         | -6,490       |
| 115+75             | 11574.51     | 24.99    | 9.00      | 9.00                                | 376.13 | 8                                 | 8                                   | 356    | 305                 | 7,003         | -6,935       |
| 116+00             | 11599.52     | 25.00    | 9.00      | 9.00                                | 333.14 | 8                                 | 8                                   | 328    | 313                 | 7,413         | -7,345       |
| 116+55             | 11654.54     | 55.02    | 9.00      | 9.00                                | 227.14 | 18                                | 18                                  | 571    | 331                 | 8,126         | -8,058       |
| 116+72             | 11671.57     | 17.03    | 9.00      | 9.00                                | 89.23  | 6                                 | 6                                   | 100    | 337                 | 8,251         | -8,183       |
| *117+00            | 11700.00     | 28.43    | 222.72    | 9.00                                | 0.00   | 122                               | 9                                   | 47     | 459                 | 8,310         | -8,129       |
| *118+00            | 11800.00     | 100.00   | 326.42    | 9.00                                | 0.00   | 1,017                             | 33                                  | 0      | 1,476               | 8,310         | -7,145       |
| *119+00            | 11900.00     | 100.00   | 424.10    | 9.00                                | 1.64   | 1,390                             | 33                                  | 3      | 2,866               | 8,314         | -5,792       |
| *119+15            | 11915.00     | 15.00    | 457.84    | 9.00                                | 4.50   | 245                               | 5                                   | 2      | 3,111               | 8,316         | -5,554       |
| STRUCTURE B-10-397 |              |          |           |                                     |        |                                   |                                     |        |                     |               |              |
| 121+26             | 12126.43     | 0.00     | 44.45     | 9.00                                | 0.00   | 0                                 | 0                                   | 0      | 3,111               | 8,316         | -5,554       |
| 121+43             | 12143.46     | 17.03    | 28.88     | 9.00                                | 17.83  | 23                                | 6                                   | 6      | 3,134               | 8,324         | -5,545       |
| 121+50             | 12150.00     | 6.54     | 31.19     | 9.00                                | 39.31  | 7                                 | 2                                   | 7      | 3,141               | 8,333         | -5,549       |
| 121+98             | 12198.45     | 48.45    | 37.04     | 9.00                                | 40.11  | 61                                | 16                                  | 71     | 3,202               | 8,421         | -5,592       |
| 122+23             | 12223.49     | 25.04    | 14.25     | 0.00                                | 117.26 | 24                                | 4                                   | 73     | 3,226               | 8,513         | -5,664       |
| 122+48             | 12248.49     | 25.00    | 14.29     | 0.00                                | 129.01 | 13                                | 0                                   | 114    | 3,239               | 8,655         | -5,793       |
| 122+50             | 12250.00     | 1.51     | 14.21     | 0.00                                | 129.26 | 1                                 | 0                                   | 7      | 3,240               | 8,664         | -5,801       |
| 122+56             | 12256.46     | 6.46     | 13.85     | 0.00                                | 132.35 | 3                                 | 0                                   | 31     | 3,243               | 8,703         | -5,837       |
| 122+81             | 12281.35     | 24.89    | 13.39     | 0.00                                | 221.86 | 13                                | 0                                   | 163    | 3,256               | 8,906         | -6,027       |
| 123+00             | 12300.00     | 18.65    | 13.23     | 0.00                                | 242.95 | 9                                 | 0                                   | 160    | 3,265               | 9,106         | -6,218       |
| 123+06             | 12306.46     | 6.46     | 13.22     | 0.00                                | 247.92 | 3                                 | 0                                   | 59     | 3,268               | 9,180         | -6,289       |
| 123+50             | 12350.00     | 43.54    | 12.83     | 0.00                                | 195.41 | 21                                | 0                                   | 357    | 3,289               | 9,626         | -6,714       |
| 123+75             | 12375.00     | 25.00    | 12.86     | 0.00                                | 167.19 | 12                                | 0                                   | 168    | 3,301               | 9,836         | -6,912       |
| 124+00             | 12400.00     | 25.00    | 0.00      | 0.00                                | 116.02 | 6                                 | 0                                   | 131    | 3,307               | 10,000        | -7,070       |
| 124+70             | 12470.00     | 70.00    | 0.00      | 0.00                                | 69.49  | 0                                 | 0                                   | 240    | 3,307               | 10,300        | -7,370       |

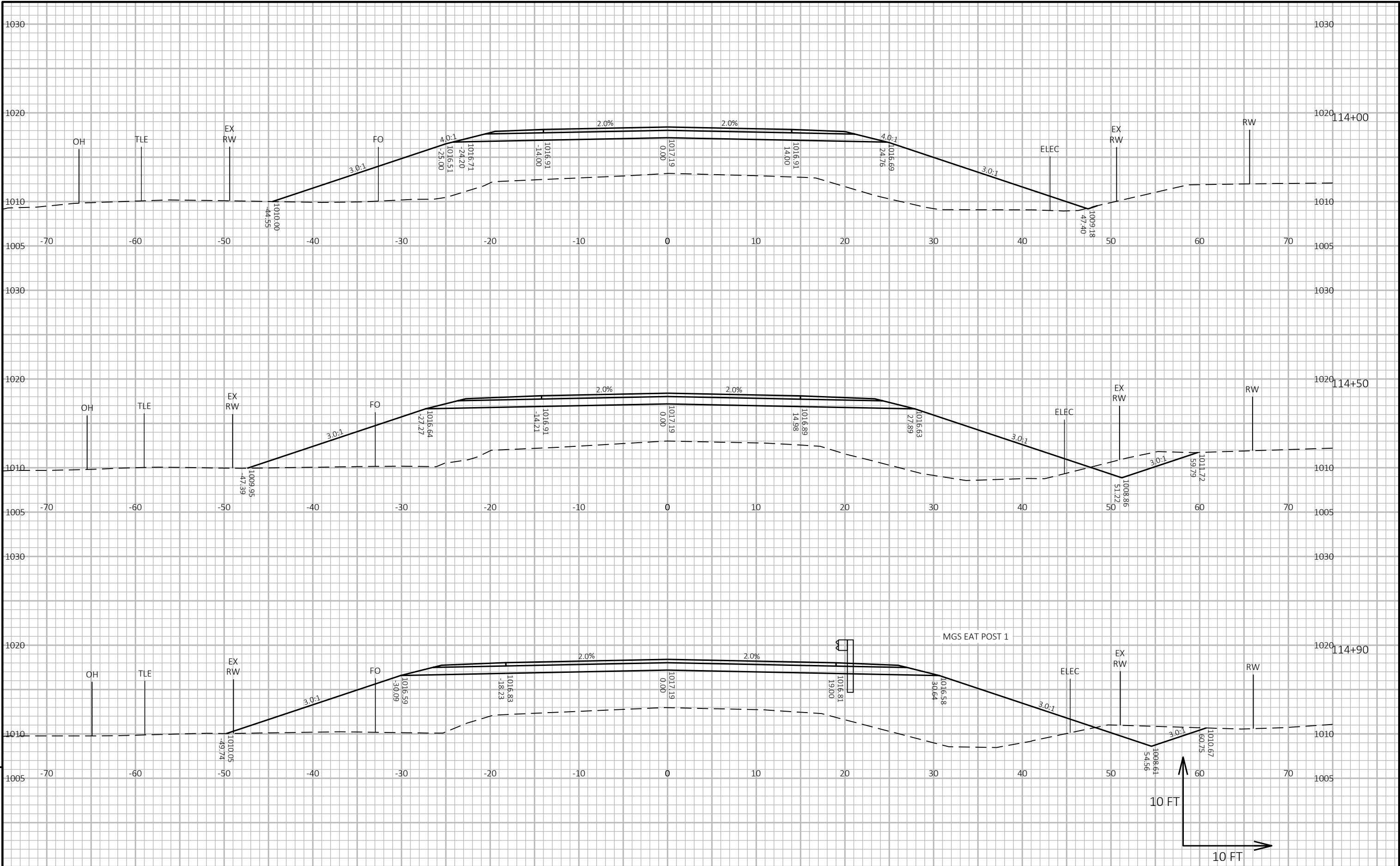
|                                         |                                                                                            |
|-----------------------------------------|--------------------------------------------------------------------------------------------|
| NOTES:                                  |                                                                                            |
| 1 - CUT                                 | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL                                           |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | THIS DOES NOT SHOW UP IN CROSS SECTIONS                                                    |
| 3 - FILL                                | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME                                              |
| 4 - MASS ORDNATE                        | (CUT - SALVAGED PAVT) - (FILL * FILL FACTOR)                                               |
| *                                       | MATERIAL TO BE EXCAVATED BETWEEN EXISTING SOUTHERN ABUTMENT AND PROPOSED SOUTHERN ABUTMENT |

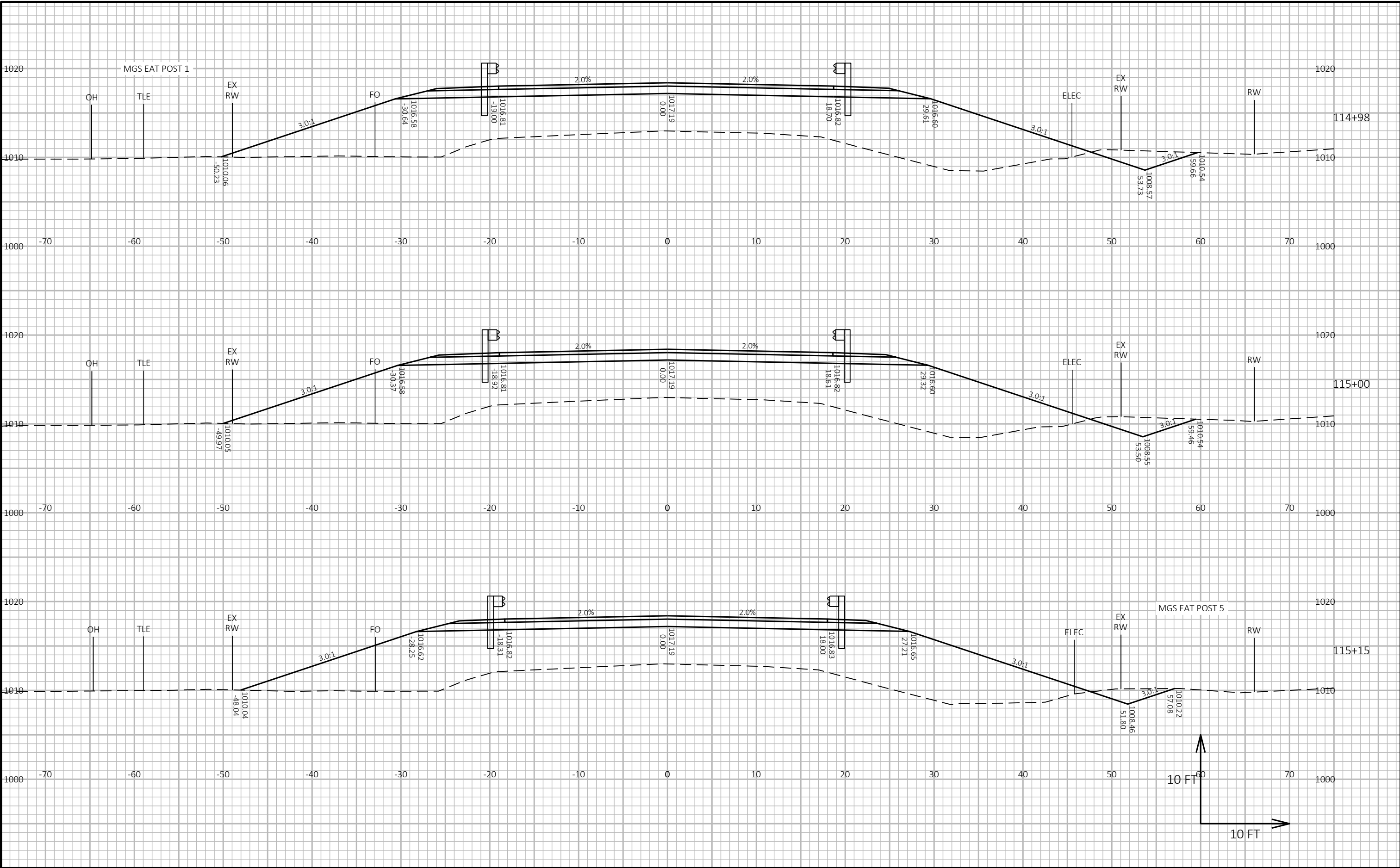


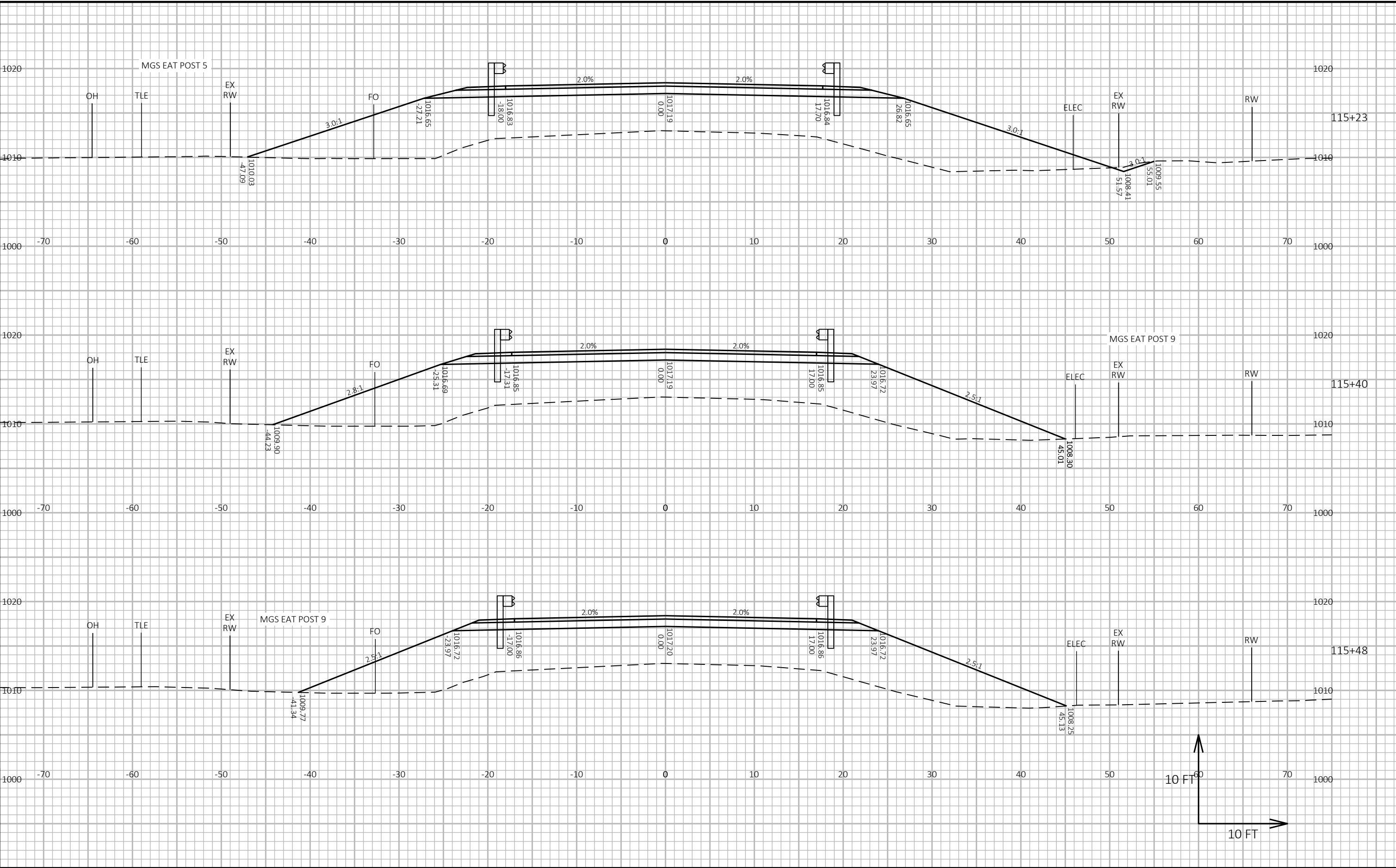


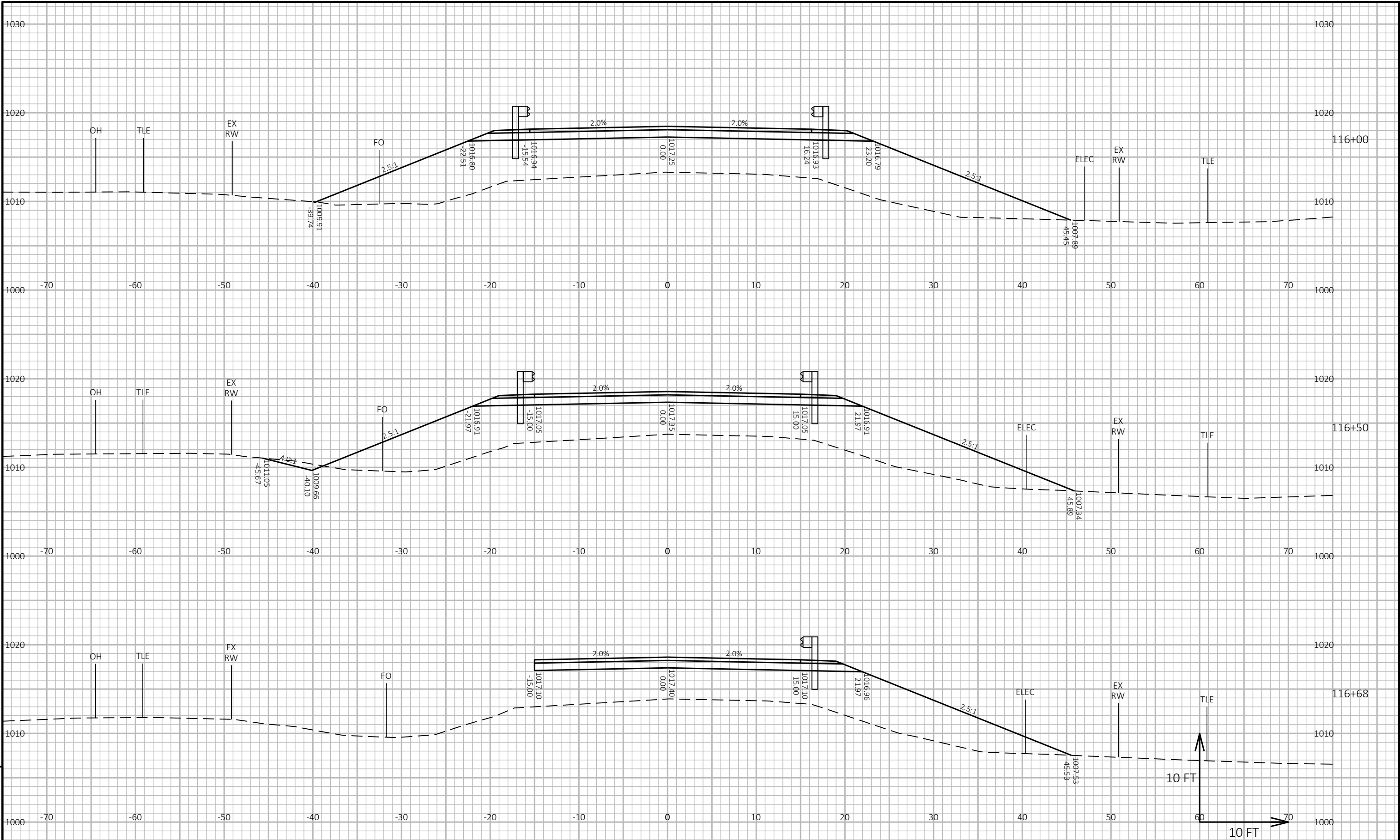


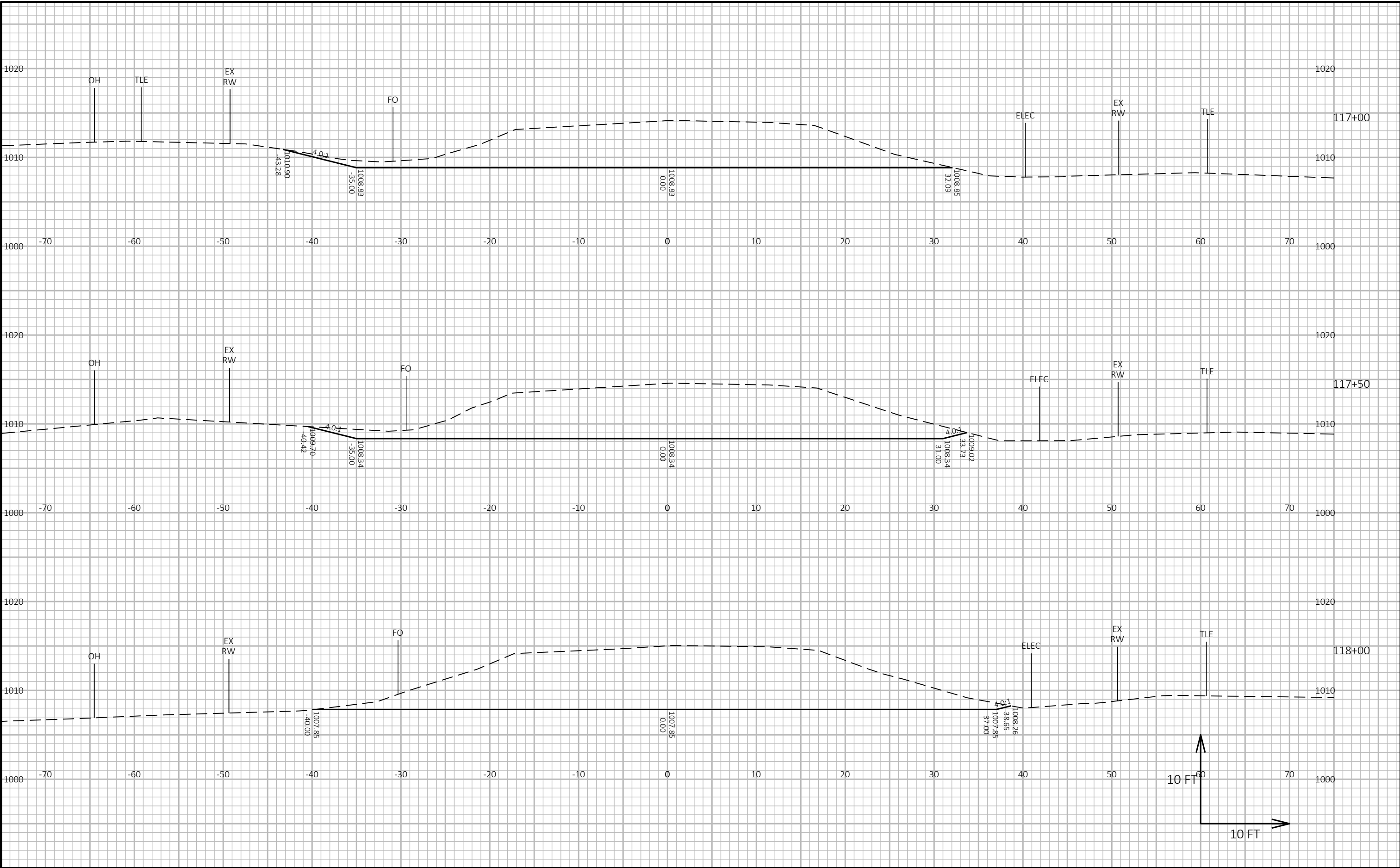


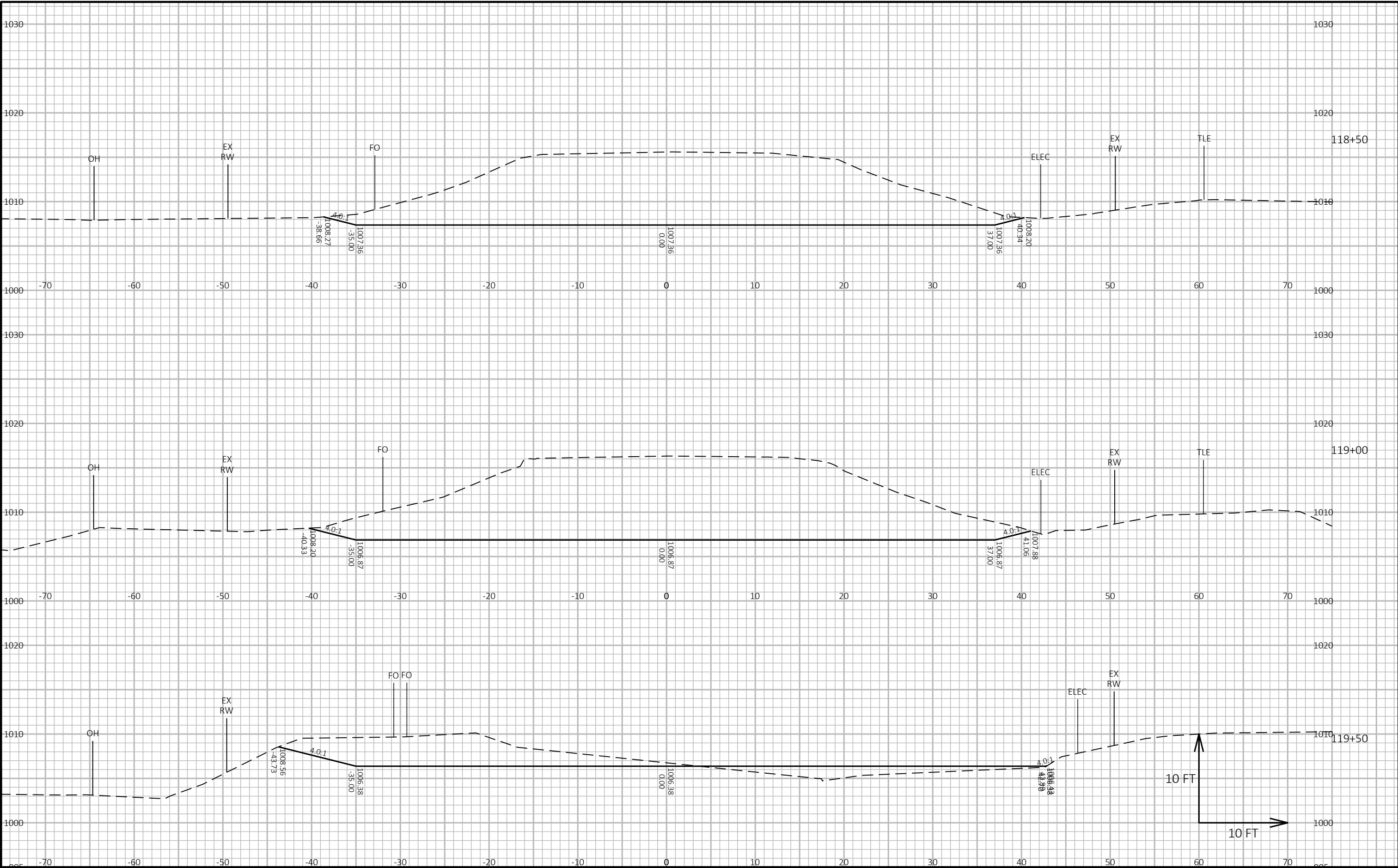


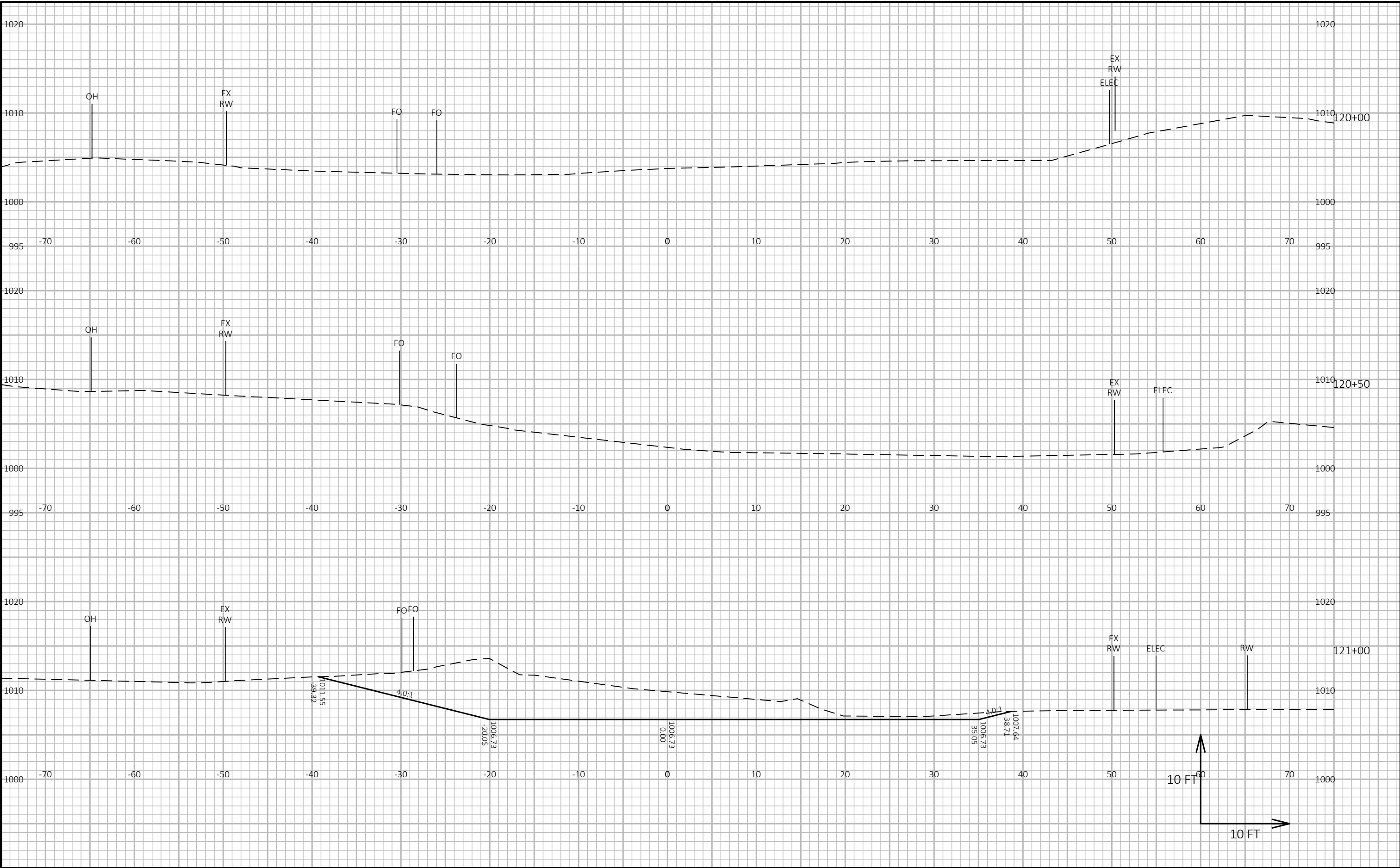




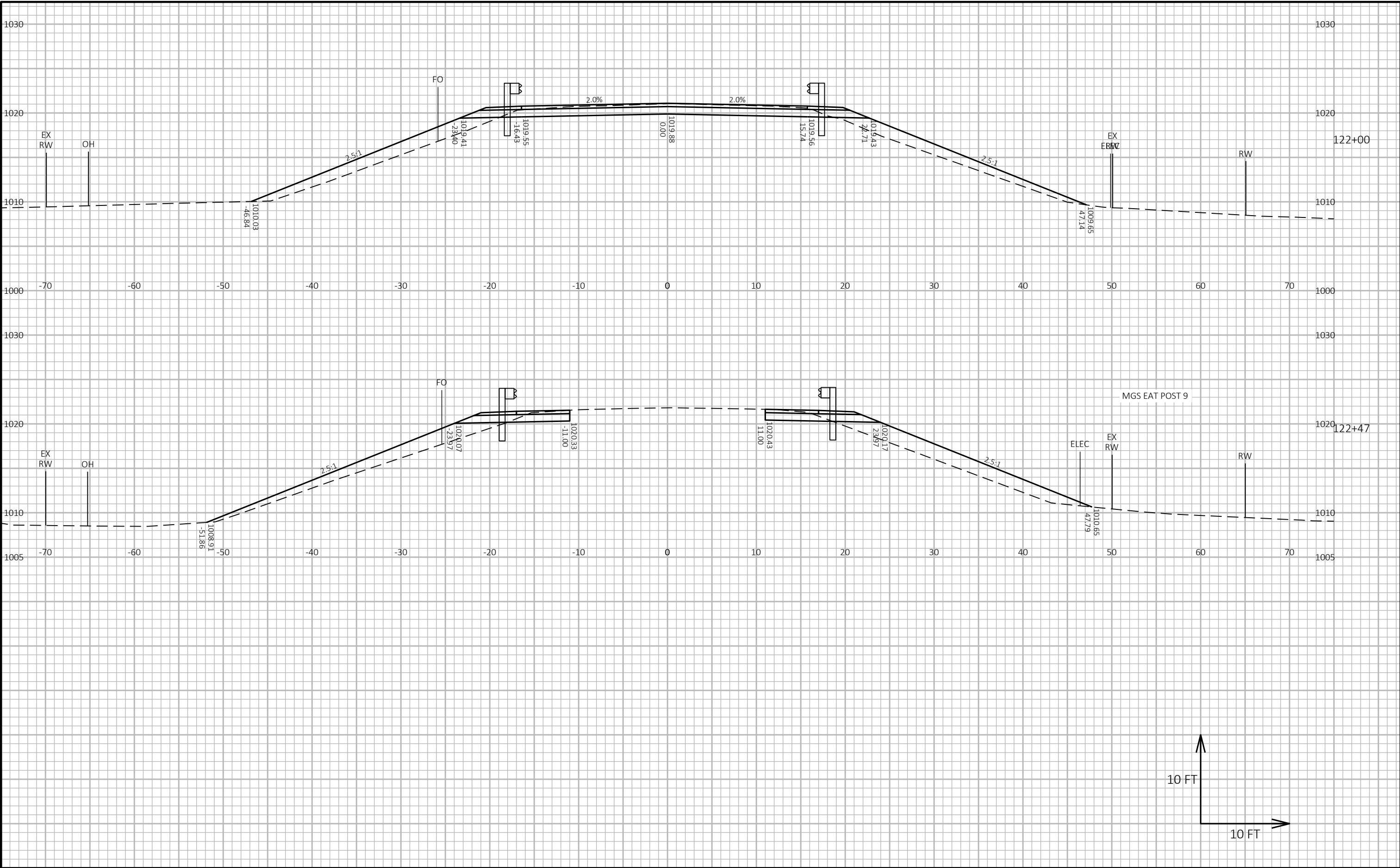






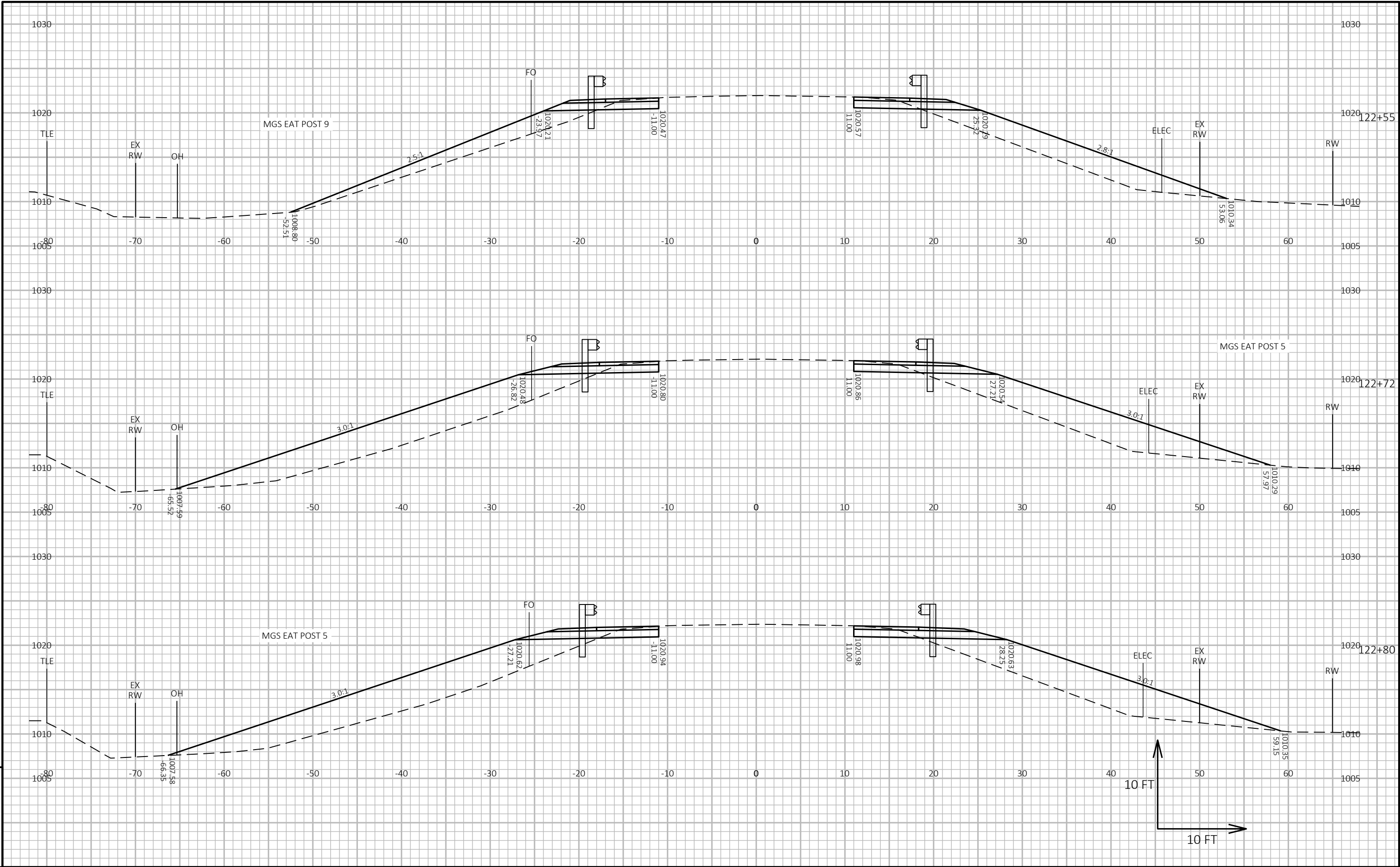


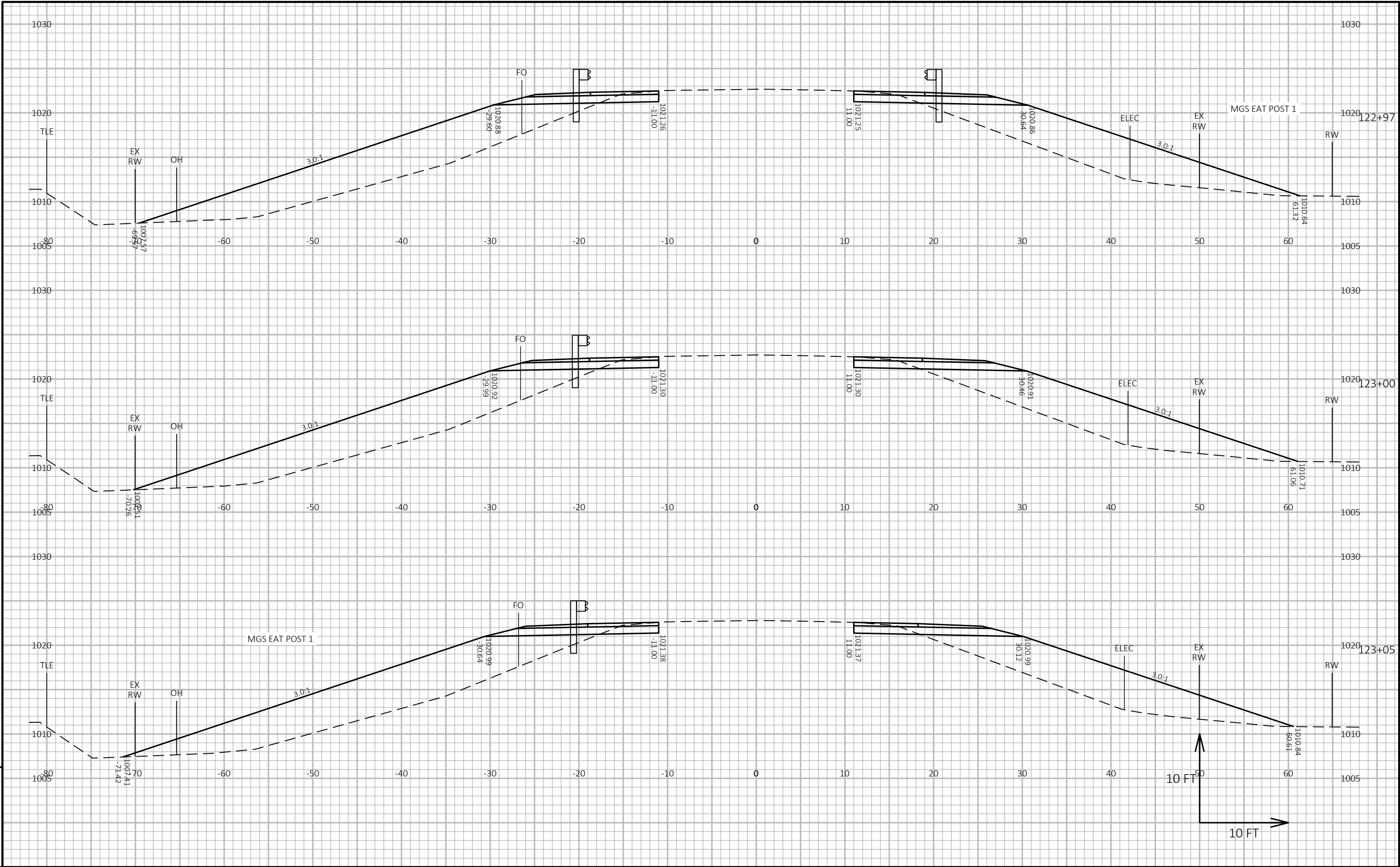


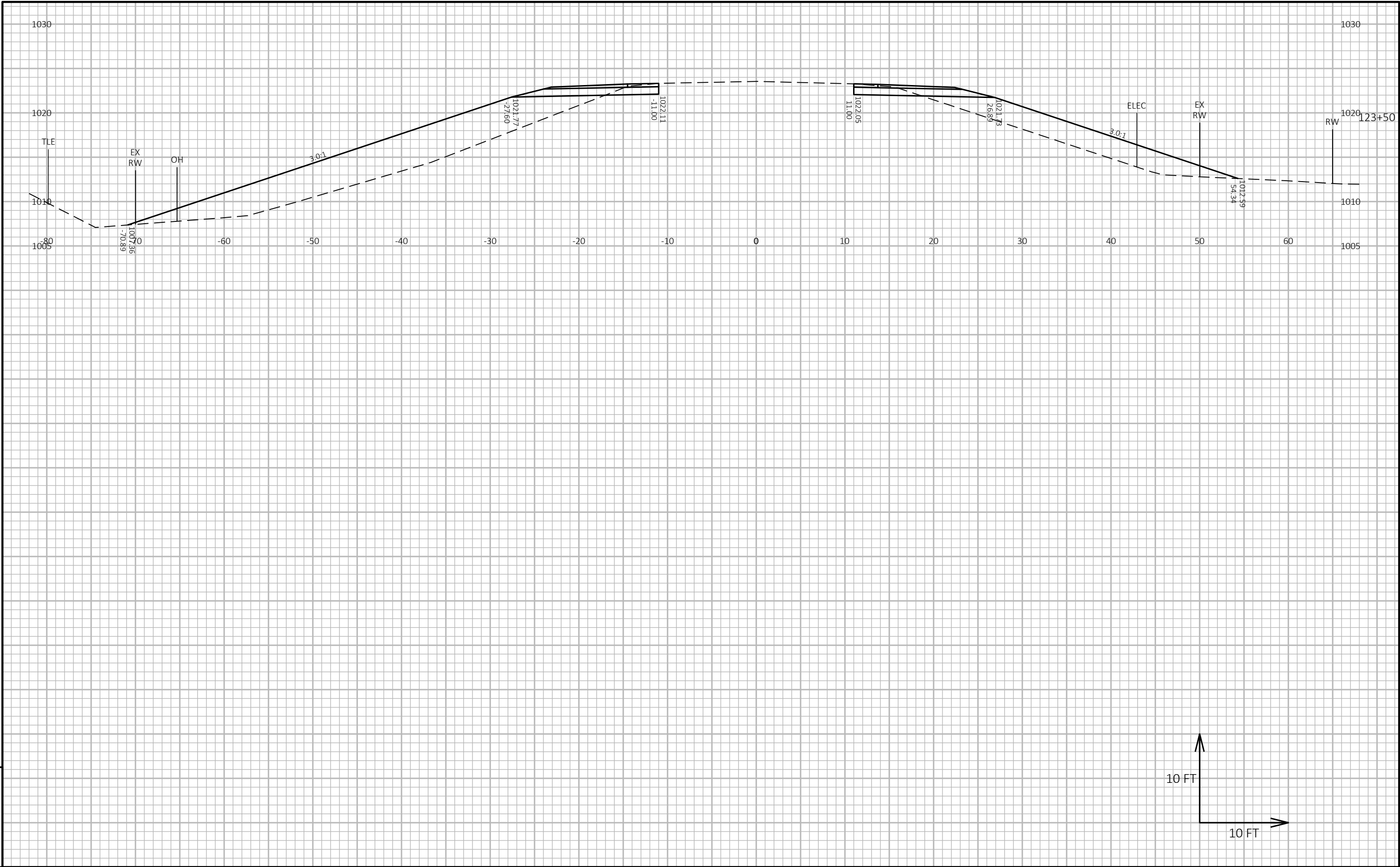


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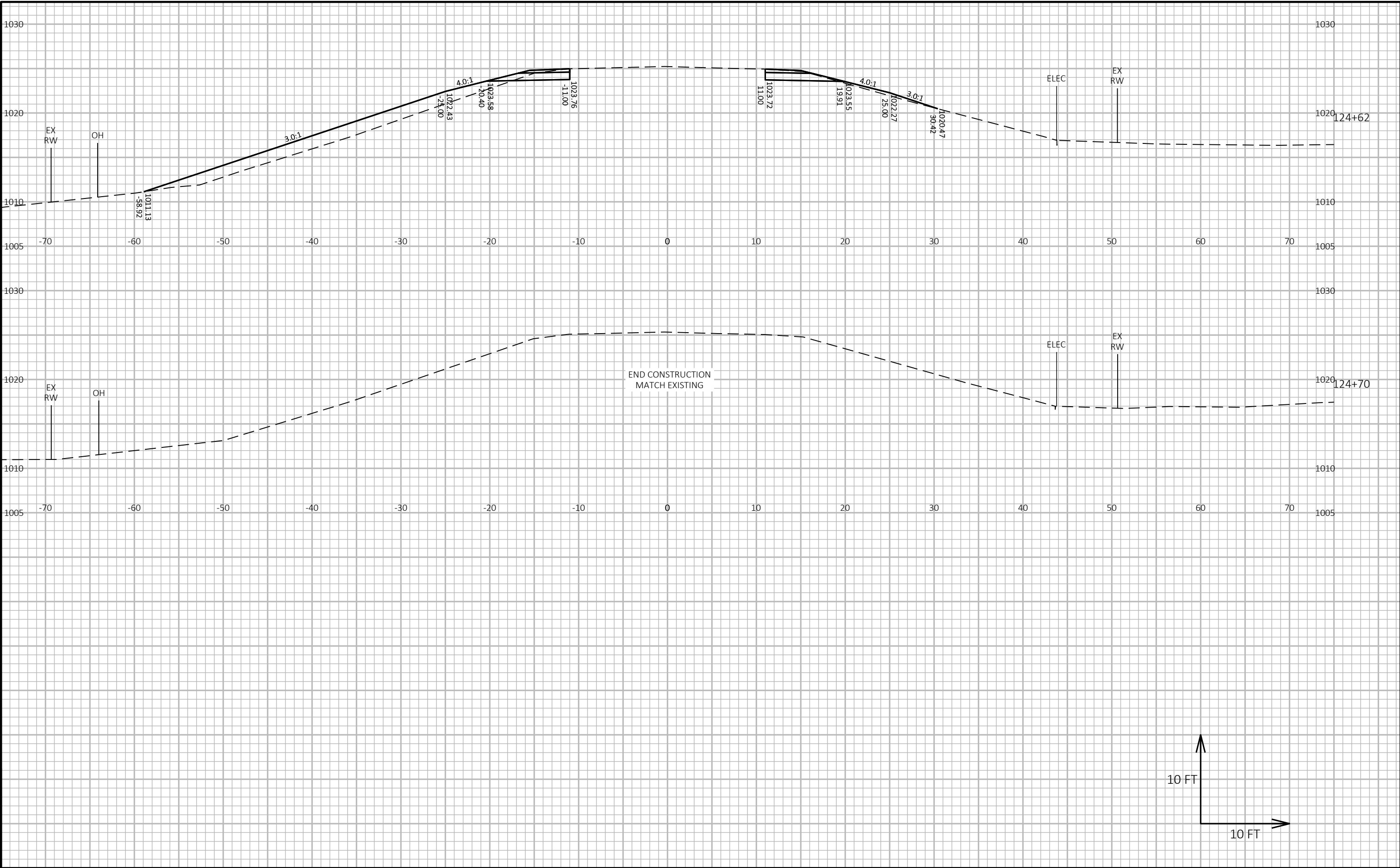


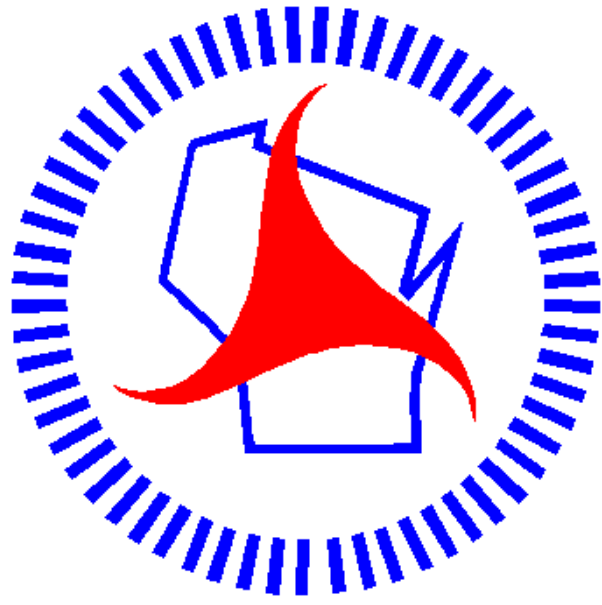


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|                        |            |               |                       |         |
|------------------------|------------|---------------|-----------------------|---------|
| PROJECT NO: 7839-03-71 | HWY: CTH M | COUNTY: CLARK | CROSS SECTIONS: CTH M | SHEET E |
|------------------------|------------|---------------|-----------------------|---------|





## ***Wisconsin Department of Transportation***

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